



Press Release: The Brains: SEO Expert Explores How The Growth of Augmented Reality and The Metaverse Will Create a More Engaged Search Experience

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London, Feb. 15, 2022 (GLOBE NEWSWIRE) -- The metaverse has been a buzzword in the world of social media, crypto and NFTs -- especially since the news that Facebook has officially changed its parent name to META. Large companies such as Apple and Facebook are seeing true value in the growth of AR and virtual reality -- and so does Google. As a result of this, it is important to consider how the principles of AR, the Metaverse and a virtual world apply to the likes of search engine optimisation, the search experience and how best to stay aligned in this trend.

So, what is AR and How Does it Support SEO?

Augmented Reality immerses digital content and information in real-time around you creating a balance between physical and digital worlds. Whether it's using maps or scanning menus to translate languages in real time, the innovation is revolutionary. AR gives your devices new ways to aid you throughout your day by allowing you to interact with digital material in a physical reality. It allows you to visually search for items by just pointing your camera at them. So, as this trend continues to expand, we must consider how best to optimise website content and search results for the power of this innovation.

Augmented reality and metaverse technology are already impacting user's experience on search in 2022, and soon, augmented reality will be a standard component of the Google search experience. Just how every business should have a website, as the metaverse grows, every business will need a presence in this space.

Augmented reality is having a big impact on how companies market their goods and services, so digital marketing specialists should consider aspects of search that will be impacted by the growing new era of SEO. In terms of SEO rankings and organic search traffic, the more the metaverse technology and digital world meets user's needs, the more Google will value its input in search.

The Brains, a leading full-service digital marketing agency https://www.globenewswire.com/Tracker?data=5_8HqGoyrZczZ1Jykj2zU5-zKhCdfUMIY4sM-FhE8-pQYYTY2hr6r-tpTK-ebbu_Mc2gne3Lruiuzp_wFf0ENQ3ZM-LGh2qyDxRnqV6hBw=, are considering how best to integrate SEO strategies to support business marketing in the metaverse. Our SEO experts understand AR, virtual experiences, and the growth of the metaverse will create a more engaged search experience that will be valued by Google.

James McGarrie, An SEO Strategist at The Brains, says:

"Augmented reality and the metaverse will play a huge part in future SEO strategies. As we know, Google values content that serves a purpose to its users and ranks it accordingly. To use AR and the metaverse to a businesses' advantage, we are going to have to consider how we not only create viable SEO strategies to appeal to the metaverse but also the content to drive the engagement to businesses in this virtual world. We see huge potential in this space and despite it being in its infancy; AR, VR and the Metaverse will surely play a significant role in SEO and user's search experience in the not too distant future."

James McGarrie, SEO Strategist, The Brains

About The Brains:

The Brains is a leading digital marketing agency in London, focused on strategies that offer unbeatable ROI and long-term business success. The Brains offers PPC, content marketing, lead generation and SEO

services

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The Washington Post

Sports

'Scorched earth' and big profits: How embattled gaming titan Bobby Kotick outlasts his opponents

By Gus Garcia-RobertsShannon Liao

3,199 words

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LOS ANGELES — In the early 1980s, Bobby Kotick, a University of Michigan undergrad who religiously studied the Forbes 400, co-founded a software company. Kotick didn't know anything about how computers worked. But his roommate, Howard Marks, did. Their idea was to make computers accessible to Luddites using a program they named Jane, which would simplify certain tasks on an Apple II.

Kotick persuaded casino magnate Steve Wynn to invest, and the employees of their company, called Arktronics, included members of the university's computer science faculty. Kotick and his partners asked their employees to forgo part or all of their pay in return for shares in the company, court records show, with Kotick thanking one hire for "the confidence and dedication you have demonstrated by your deferral of salary for stock, it is appreciated and should prove rewarding."

But Apple's next model made Jane obsolete, and the employees claimed their thousands of shares — said to be worth \$1 each — were in fact worthless. "We felt that we had been lied to and perhaps cheated," said former employee John Wiersba.

Five employees sued Arktronics and its principals in 1985, records show. Arktronics and the employees reached a settlement — but then the company claimed the agreement should not be enforced due to a "mistaken assumption" about expected revenue. In 1989, a Michigan judge ordered Arktronics to honor the settlement: \$17,000.

But by then, Kotick and his partners had moved to Los Angeles, where he was in the midst of taking over a salvaged gaming company known as Activision.

The dispute would drag on for six more years, with interest accruing. Kotick's spokesman, Mark Herr, said the judgment was "paid and satisfied," though he did not specify when. Wiersba said he was never paid, and a second employee said he couldn't comment because he signed a nondisclosure agreement. Available court records don't indicate whether the debt was ultimately paid.

"Our intention was not to hurt people. Our intention was to start another company and become successful," said Kotick's partner Marks, who added that he didn't recall specifics of the dispute. "And it turns out it was unfortunate for the original people."

The early enterprise — with Kotick blazing toward profits while leaving behind a trail of aggrieved employees — was a case study in his approach to business, which would become well known over the decades that followed.

That approach was on full display last month when Microsoft, in an industry-shifting megadeal, agreed to purchase Activision Blizzard for \$68.7 billion, with Kotick reportedly expected to leave his role as CEO after the sale closes, probably sometime next year. The purchase price, nearly as much as the \$71.3 billion Disney recently paid for 21st Century Fox, showed the remarkable extent of Activision's overhaul since Kotick revived it from bankruptcy three decades ago. And it demonstrated why Kotick is revered by some as having one of the most prescient minds in business, recognizing and situating himself to capitalize on incoming industry booms in computing, video games and, most recently, esports.

That reputation has helped make Kotick one of America's highest-paid executives, earning \$154 million in 2020. And it won him the loyalty of a corporate board that has stood by him through periods of tumult — including when he fired two of the company's most prominent developers, and when he pushed the company to pursue a stock deal that a judge ruled meant a disproportionate profit for himself.

The board has continued to voice full confidence in Kotick even as the company faced accusations of being a toxic workplace for many of his 10,000 employees. The state of California has sued the company, and the SEC is investigating, over its handling of sexual harassment allegations. A recent Wall Street Journal

investigation alleged that Kotick failed to share sexual assault and other allegations with the board. More than 1,800 employees have signed a petition calling on Kotick to resign.

A corporate spokesperson has said Activision Blizzard "fell short of ensuring that all of our employees' behavior was consistent with our values," and that the company is cooperating with the SEC investigation. But the company has broadly disputed the various allegations, including calling the California lawsuit's claims "distorted, and in many cases false," and Kotick has not conceded that he did anything wrong.

Court records reviewed by The Washington Post show that Kotick has engaged in years-long battles against enemies big and small, sparring with contractors for his Beverly Hills, Calif., home and an attendant on his private jet, who claimed Kotick fired her after she reported sexual harassment by another employee. He has brawled over sums of money far eclipsed by the cost of his lawyers.

Herr, Kotick's spokesman, described Kotick as a "reluctant litigant" who rarely files suit himself and whose lawyers defend him "professionally and with determination." An outside law firm representing Kotick also sent a five-page letter to The Post's attorneys, calling this article "an attempt to discredit Mr. Kotick's stellar reputation as a businessman who has built an \$80 billion enterprise from bankruptcy."

Activision Blizzard's sale has been described as a hastily arranged concession to the damage done to Kotick and the company's reputation in under a year. But its terms also showcased Kotick's ability to survive — and to weather, for now, a scandal that might have meant a quick and inglorious exit for other executives of publicly traded corporations.

If he leaves Activision Blizzard as expected next year following the close of the sale, it will be with stock holdings currently worth around \$400 million, reinforcing what was long recognized by those who know him: Even when he loses, it's on his terms.

A new game in town

In 1990, with Arktronic now defunct, Kotick and his partners spent less than \$500,000 to acquire a controlling stake in a Bay Area company called Mediagenic.

Previously called Activision, the company had enjoyed huge sales during the first video game boom in the early 1980s, with a catalogue of titles for Atari, Sega and Nintendo that included "Pitfall!" and "Dragster."

But revenue had plummeted, and Kotick's predecessors at the company, sensing that video games were a fad, had changed its name and shifted to what they saw as a more lasting product: word processors. The company was beset by debt and litigation.

Kotick revived the Activision name, laid off much of the staff, and moved the company to Santa Monica, partly to better poach talent from the film industry. A full-page ad in the Hollywood Reporter in 1992 featured the Hollywood sign replaced by letters spelling "Activision" and the tag line, "We have big plans for this town." The ad didn't mention the term "video games," instead referring to "interactive media" as "The Next Big Thing." It called for "writers, screenwriters, special effects people, animators, producers, and illustrators" to call Kotick, listing his direct extension.

At the time, Hollywood dwarfed the gaming industry, which was cordoned behind the pornography section at the annual CES technology show. But with Kotick at the helm, the company produced franchises, including "Tony Hawk's Pro Skater" and "Call of Duty," that far out-earned even the most successful films in history.

By 2014, Kotick could out-bully the film industry in its own town. That year, Sony Pictures executive Tom Rothman, who would later become chairman of the company, prepped his colleagues to tread lightly with Kotick in advance of a meeting about adapting some of his games.

Kotick's plan was to "do it all IN HOUSE to CONTROL everything," Rothman warned, according to an email leaked in the Sony hack. But they might have a chance, Rothman wrote, if they were able to "COAX him toward us, by letting him retain control."

The role reversal reflected industry realities that have only become more pronounced, as the gaming industry has recently out-earned the professional sports and film industries combined.

Kotick has personified that shift, carrying himself more like a film boss than a product of gaming's scruffy programmer roots. His personal art collection has been valued at \$100 million, and he's vice-chair of the Los Angeles County Museum of Art. He has close relationships with business titans like "Uncle Steve," as he's called Wynn, and Robert Kraft, owner of the New England Patriots, whose ownership of the Boston Uprising gave instant cachet to the Overwatch League, one of Activision Blizzard's professional esports circuits.

'Scorched earth'

Compared with other magnates who have transformed multibillion-dollar industries, Kotick has, until recently, managed to keep a relatively low profile. Those who know him are reluctant to discuss him on the record, giving reasons ranging from confidentiality agreements to fear of a man who has shown a willingness to devote enormous resources to even the most minor feud.

When Kotick grew dissatisfied during a home remodeling in 2001, court records show, he wrote in an email to his general contractor that during their next meeting he'd be joined by the "senior litigation partner" of a major law firm. "I will assure you the financial and reputational consequences of a litigated outcome will be to [the contractor's] great disadvantage," Kotick wrote.

When the contractor's company then sued Kotick for allegedly not paying his bill, his lawyers said in a counterclaim that the company's "secret practice of hiring undocumented and unknown workers ... placed the Koticks and their children at risk," including causing an explosion in his house and the venting of "lethal carbon monoxide." They tried to depose the contractor's famous clients, including Jim Carrey, Jennifer Lopez and Quentin Tarantino, in what they said was an effort to reveal other allegations of poor workmanship. The contractor's lawyer said Kotick was trying to hurt the company's reputation.

A judge ruled against the celebrity depositions. Kotick's spokesman said last month that he terminated the contractor because of "overbilling, safety and quality of work," but settled to "avoid protracted litigation."

In 2010, when the rock group No Doubt sued Activision over the use of their likeness in the game "Band Hero," Kotick appeared to take it personally that one of the band's lawyers, who had previously represented Kotick, was now opposing him. In an email filed in court, Kotick chastised the lawyer for not having "given me the courtesy of a phone call" about what he called the "frivolous lawsuit," writing: "Do you understand that this will prevent you from ever doing any business with Activision, Universal Music or ANY Vivendi company anywhere in the world?" Kotick's spokesman said he couldn't comment on the No Doubt case because of the terms of a settlement.

During a second protracted spat with a contractor who had worked on his Beverly Hills home, court records show, Kotick sued his HVAC contractor over an \$18,000 dispute for what he said were faulty thermostats. Though Kotick ultimately voluntarily dismissed the lawsuit, he apparently still couldn't get the temperature right in his house, designed by famed architect John Lautner. He filed suit against an electronics company whose malfunctioning control system, Kotick claimed, was randomly filling his bathtub and turning on the heat, which his lawyers claimed would "likely damage the Koticks' irreplaceable art collection," including pieces by Mark Rothko and Robert Rauschenberg.

Marks, his former business partner and an Activision executive until the late 1990s, said he counted Kotick among his best friends until they had a falling out over money. Marks described Kotick, whose net worth has been estimated to be near a billion dollars, as always ready to scrap for virtually meaningless amounts of money. "He always liked the saying, 'The one who has the most things when they die, wins,'" Marks said. "Well, he might win, but I never wanted to be in the race in the first place."

Herr, the spokesman, said that the saying was from a sweatshirt worn by a mutual friend to Kotick and Marks, and that they would both make reference to it. "Bobby denies he believed it then or now," Herr said.

Kotick's stamina for legal combat was on display again during a dispute that could be seen as a precursor to the sort of allegations he's recently faced atop Activision Blizzard.

In 2007, a flight attendant for Kotick's private jet sued, accusing him of firing her after she reported being harassed by a pilot. Kotick undertook what an arbitrator later described as a "scorched earth defense."

After the flight attendant mentioned during a deposition that she had an abortion, Kotick's attorneys argued in court filings that her ex-boyfriend should have to answer questions about it during a deposition, and also that they should be able to introduce evidence of the abortion at trial. The procedure may have "distracted [her] from properly performing her job duties" or caused the "emotional distress" she was now blaming on her firing, Kotick's lawyer argued in a legal filing.

The flight attendant's lawyer described the line of inquiry as "pure harassment." Kotick's spokesman defended their legal argument, noting that she brought up the abortion herself, "unprompted."

Kotick and the flight attendant ultimately settled, with Kotick agreeing to pay her \$200,000 plus \$475,000 in legal fees. After Kotick then refused to pay his own lawyers all of what they said he owed, claiming they overbilled him, they took him to court, too. The arbitrator described Kotick's strategy as being more concerned with vengeance than business sense, citing statements Kotick allegedly made during meetings with lawyers that he would "ruin" the flight attendant to ensure she would "never work again." At the time, Kotick's lawyer disputed the arbitrator's account of those statements as "inaccurate" and "taken out of context."

Kotick's spokesman said Kotick only defended himself against the attendant's lawsuit, which "the facts clearly showed was without merit." The arbitrator awarded his former lawyers nearly \$1.5 million in fees and costs. All told, Kotick spent more than \$2 million on a legal saga his attorneys allegedly advised could have been settled early on for a tenth of that.

According to the arbitrator, however, Kotick said during the proceedings that he was unconcerned with the cost. "He was worth one-half billion dollars," the arbitrator wrote, paraphrasing what he said was Kotick's position, "and he didn't mind spending some of it on attorneys' fees."

Reached by The Post, the flight attendant declined to comment, writing, "I have [a] gag order with him."

A disputed stock deal

Each time that Kotick, as Activision Blizzard chief, has weathered major storms of his own making, he has emerged richer.

When Kotick fired Jason West and Vincent Zampella, the two developers behind the massively lucrative "Call of Duty," in 2010, the move stunned the industry. The developers sued, claiming their firings were an attempt to avoid paying them \$36 million they were owed in royalties and bonuses.

The resulting litigation included claims of a secret campaign to spy on the developers to find a reason to fire them, with a former IT director for the company testifying in a deposition that he was told his assignment for subterfuge "comes from Bobby directly." Activision Blizzard's version was that the developers were investigated and terminated for insubordination, after the company discovered they were allegedly planning to leave for rival Electronic Arts.

Activision Blizzard responded by suing EA, but after more than two years of escalating court claims, it settled with both the developers and the rival company. Kotick's spokesman declined to comment on the litigation, saying that the settlement had rendered it "strictly confidential."

The episode cost Activision Blizzard tens of millions of dollars, but the company and Kotick's bottom line proved unaffected. The company's stock price has increased roughly ninefold since the scandal, and it maintains full control of the multibillion-dollar Call of Duty franchise.

Within a year of that settlement, the company's board faced a direct test of its loyalty to Kotick, over a deal that appeared to particularly benefit him.

As described in a later court opinion by a Delaware judge, Kotick and Brian Kelly, the Activision Blizzard board chairman, proposed a massive buyback of the ailing French corporation Vivendi's stake in the company. Kotick and Kelly's plan included forming a private entity in the Cayman Islands, separate from Activision Blizzard, that they would use to purchase billions of dollars' worth of shares for themselves and outside investors.

An adviser hired by the board warned that Kotick and Kelly would wind up with a "disproportionate influence" on the company. But when a board committee proposed alternate plans, according to the Delaware judge's opinion, Kotick repeatedly shot them down. The committee, "concerned that Kotick might resign if they did not support a deal on his terms," disbanded. A version of the deal went through in 2013, and Kotick and Kelly's group immediately profited by \$712.8 million — a quarter of which was shared by the two men — according to the court opinion.

Shareholders sued, claiming the deal favored the executives. The lawsuit was settled in 2015, for \$275 million, just over half of which came from Kotick's group. Kotick's spokesman told The Post that the deal "created tens of billions of dollars of long-term value for shareholders."

In approving the settlement, the judge didn't disagree, writing that the transaction's problem "was not the lack of benefit to Activision," which also profited, "but rather the extraordinary benefits that Kotick and Kelly extracted for themselves."

Marks, Kotick's old partner, described such maneuvers as Kotick's real specialty, and said his "golden parachute" from the trouble at Activision Blizzard was his finest work. "That's like a chess move," Marks said. "No one saw that coming."

For fun and money

Kotick's caustic and unilateral style has long been accepted as part of the package, according to Trip Hawkins, the EA founder who has known Kotick for more than three decades, dating back to when he said the young businessman's nickname was the "Enfant Terrible."

But Hawkins suggested that style was bound to clash with new expectations for executives. "Bobby is a brilliant businessman," Hawkins said, "but he's the opposite of 'woke.' "

Unlike the business landscape, Kotick appears to have changed little since his Arktronics days. In 1984, he told an interviewer for PBS about an aborted attempt by another computer company to buy the Michigan start-up.

"And they said, 'This is going to be great fun,' " Kotick, 21 at the time, said of that meeting, accentuating the word. " 'We've been in business for two years, we have a lot of fun doing it, and we're in it for the fun.' "

"We're in it for the fun, too," Kotick said. "But we're in it, really, for the money."

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Microsoft Pledges Openness Amid Scrutiny of App Stores -- WSJ

By Ryan Tracy and Aaron Tilley

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Microsoft Corp. executives promised that the marketplace they are envisioning for videogames would operate by a set of open-market principles, part of a pitch to regulators around the world to approve its acquisition of **gaming** giant Activision Blizzard Inc.

The principles are a response to concerns raised by app developers and lawmakers, who say app stores run by **Apple** Inc. and others take an unfairly large cut of digital revenues and stifle competition. Microsoft said it wouldn't require developers to use a proprietary payment system, among other steps.

"We are more focused on adapting to regulation than fighting against it," said company President Brad Smith. He and Chief Executive Satya Nadella met with reporters in Washington, D.C., Wednesday ahead of meetings with lawmakers and others about the Activision deal.

The principles would also help Microsoft offer its new gaming store on devices where it can't today, executives told reporters Wednesday. Apple's iPhone, for example, doesn't allow competing app stores, a step the company says helps it to protect users' security and privacy.

In January, Microsoft announced its largest-ever acquisition of \$75 billion for Activision. The deal, which is subject to regulatory approval, would help bolster the company's subscription gaming service, called Game Pass. The service offers users a catalog of games to play for a monthly fee. With Activision, Microsoft would get access to hugely popular franchises such as Call of Duty and World of Warcraft.

The U.S. Federal Trade Commission will be reviewing the deal. Since assuming office last summer, FTC Chairwoman Lina Khan has sought to increase scrutiny of acquisitions. The agency will be looking at whether the Activision deal could lessen competition in the gaming market, The Wall Street Journal has reported.

The deal fits in with Microsoft's move to buy up more studios that fit into Game Pass. Since Mr. Nadella took over as CEO in 2014, Microsoft has spent more than \$10 billion to buy more than a dozen game studios, including last year with its acquisition of ZeniMax Media Inc., owner of the Doom and Elder Scroll franchises, for \$7.5 billion.

Microsoft executives expressed confidence Wednesday that the Activision deal will pass regulatory muster, though they acknowledged it is being proposed in a climate of heightened scrutiny of large technology companies' market power.

Microsoft has said the deal would make it the third-largest company in the global videogame market including games, subscriptions, gaming-specific hardware and other revenue sources.

In "traditional antitrust times," Mr. Nadella said, "being No. 3 in a highly fragmented market in terms of just content is not going to be that interesting to anybody."

Antitrust enforcers could take a narrower view of the market, concluding Microsoft's market share is larger than the company states.

Previewing arguments Microsoft could make to regulators, Mr. Nadella said the acquisition would benefit consumers thanks to the company's vision of making games playable on any device. "There is going to be more choice," he said.

Such a shift would also benefit game developers, he said.

"There isn't just one app store through which they have to reach the users," particularly on mobile devices, Mr. Nadella said. And if regulators question the impact on labor markets, he said, "in the gaming industry, we are a preferred employer."

The app-store principles Microsoft outlined would eventually apply to the store on its Windows operating system, Xbox gaming console, and any future app store the company builds.

"We are creating a universal store for games," said Sarah Bond, a corporate vice president in the company's Xbox business. She said the idea is the store would be widely accessible, allowing players to use games on various devices.

That kind of product could run afoul of Apple's app-store rules. With Wednesday's announcement Microsoft appeared to be taking another step in a campaign to pressure Apple to change its policies. Microsoft was a supporting witness to Epic Games Inc. in that company's recent lawsuit accusing Apple of anticompetitive conduct.

Microsoft also has endorsed legislation under consideration by Congress that would force Apple to loosen some of its app-store restrictions, including allowing consumers to load other app stores on the iPhone and iPad. Apple has lobbied against the bill, which cleared a key Senate panel last week.

Apple didn't respond to a request for comment. In the past, Apple has warned policy makers that attempts to open up their platform would evade the company's privacy and security protections, The Wall Street Journal reported.

Mr. Nadella said the new universal store would allow players to buy a game, as many do today, or buy a Netflix-style subscription to have access to multiple games: "It's kind of rent versus buy."

Tim Higgins contributed to this article.

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New games set to join Apple Arcade club this month

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It's been two years since Apple launched the Arcade gaming service, and since then it has added more and more titles into its library totalling 200 plus and also now home some of the best graphics-rich games in the industry including NBA 2K22 Arcade Edition, Star Trek: Legends and many more.

Now, the company has announced to bring four more—two Apple Store Greats— Bridge Constructor+ from Headup, Bloons TD 6+ from Ninja Kiwi, which are slated to arrive on February 4 and 11, respectively.

And, two Arcade Originals include—Wylde Flowers from Studio Drydock and Gibbon: Beyond the Trees from Broken Rules— and are coming on February 18 and 25, respectively.

For the uninitiated, Bridge Constructor+ involves developing civic infrastructure for transportation. It is a simulator and players will have to design and create elaborate roads for cars and trucks to cross over; their job is to abide by the rules of the physics and civil engineering skills to ensure the bridge are capable of supporting different vehicles or else it may crash. The game offers several different settings and 100 plus levels to master the art of bridge-building by using different materials and stress-testing constructions to make sure they won't buckle and break under the weight of ongoing traffic.

On the other hand, Bloons TD 6+ is a strategy game. Players have to create a good defence plan using resources such as monkey towers, upgrades, heroes, and activated abilities, then knock every last invading Bloon. It has more than 50 maps for a single player and he/she can dive into multiple additional game modes including a 4-Player co-op, where they can experience every map and mode with up to three other players in public or private games.

There is also Boss Events, where the menacing Bloons' boss, which can challenge even the strongest defences. Players on the Odyssey battle through a series of 3 to 5 maps connected by their theme, rules, and rewards. All along the way players can earn trophies to unlock dozens of cosmetic items that let them customise their monkeys, Bloons, animations, music, and much more, notes the game description.

In the Wylde Flowers games, players will assume the role of Tara, who has just moved to a magical hamlet to help out her grandma and the family farm. As users play the game, they will be introduced to a cast of fully voiced characters with intriguing backstories — find friendship or even romance. The characters and players have to get accustomed to an active farming lifestyle as they tend crops, care for animals, fish, craft, and more throughout the day. However, in the night, they'll nurture their inner witch as they learn to fly their broomstick, brew potions, control the weather and seasons or even transform into a cat.

Gibbon: Beyond the Trees, as the name suggests, is centred around the forest and most importantly, it helps people realise the importance of ecological balance. Players have to learn the tricks of the dynamic movement systems to swing, slide and somersault through a hand-painted jungle, and experience the story of a lost gibbon searching for home amid rising devastation.

Our new game, Gibbon: Beyond the Trees, is a a hopeful game about the beauty of wilderness and the destructive force of human civilisation.

Apple Arcade, February 25th: <https://t.co/1lITTsZovT>

Steam, Early 2022: <https://t.co/ojANHRSiwV>

Nintendo Switch: Early 2022 pic.twitter.com/RH0WTzrG4u — Broken Rules (@brokenrules) February 1, 2022

"Players will swing into the life of a lost gibbon as they embark on a dangerous journey into unknown lands, with a narrative that captures the struggle of living creatures around the world. Master the ape's art of brachiation (swinging from branch to branch) at high speed, building momentum, pulling off spectacular somersaults, and launching yourself higher and further into the air with the help of your fellow apes, feeling the thrill and exhilaration of life in an untamed jungle," the game description.

Apple has announced that popular titles such as WHAT THE GOLF?, Castlevania: Grimoire of Souls, Zen Pinball Party and Zookeeper World are getting new updates with new content, features to enhance the gaming experience.

Apple has also revealed that it will be bringing more updates to popular titles including Nickelodeon Extreme Tennis, Fruit Ninja Classic, Temple Run: Puzzle Adventure, SP!NG, Simon's Cat, and Crayola Create and Play.

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Life+Travel

Best over-ear headphones for 2022

CNET.com

652 words

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While earbuds like **Apple's** AirPods Pro may be the dominant headphones these days, there's something to be said about a huge pair of over-the-ear headphones. These are -- if you get the right pair -- able to deliver a bigger, richer sound than buds with excellent noise cancellation to block out external noise.

And technology hasn't left over-the-ear headphones behind. The ones available these days are wireless and connect to your devices via Bluetooth. They also often include features like noise cancellation and microphones so you can use them to take calls or even as a **gaming** headset. That said, most wireless headphones -- except notably the AirPods Max -- include an audio cable, so a wired option is available for those seeking it. All that considered, here's a look at three of the best headphone options that go over your ears.

HIGH-END NOISE-CANCELING OPTION

Apple AirPods Max

Yes, they're expensive, but the AirPods Max deliver richer, more detailed sound than lower-priced competitors from Bose and Sony. They also feature arguably the best noise cancellation on the market, along with premium build quality and Apple's virtual surround-sound spatial audio feature for video watching. While they're heavy, they manage to be surprisingly comfortable, though we did have to adjust the mesh canopy headband to sit a little more forward on our head to get a comfortable secure fit when out walking with them. They should fit most heads well, but there will be exceptions. These are one of the best pairs of noise canceling headphones.

BEST NEW WIRED STUDIO HEADPHONES

Beyerdynamic DT 700 Pro X

We were fans of Beyerdynamic's earlier DT 770 Pro headphones. The new DT 700 Pro X is easier to drive than the 770 Pro, thanks to the company's new Stellar.45 sound transducer with an impedance of 48 ohms, so it plays better with smartphones, tablets and laptops without requiring a headphone amp.

The headphone is targeted at content creators who want accurate audio reproduction, but it's a bit more dynamic sounding and less bass shy than many studio headphones, which tend to restrain the bass and hew toward a very neutral sound profile. The DT 700 Pro X is a revealing, clean-sounding headphone that offers invitingly open sound (particularly for a closed-back headphone) and makes you realize what you're missing after listening to similarly priced Bluetooth headphones.

The solidly built headphone -- it weighs about 12 ounces -- is quite comfortable, featuring upgraded soft, velour-covered memory foam earpads that offer decent passive noise isolation. The earpads and the headphones' other parts are replaceable, Beyerdynamic says.

STRONG ALL-AROUND PERFORMER

Bose Noise Cancelling Headphones 700

The Bose Noise Cancelling Headphones 700, the long-awaited successor to Bose's QuietComfort 35 II model, may not be a quantum leap forward, but these headphones offer slightly better sound and noise cancellation along with top-notch headset performance for voice calls. They're a strong all-around audio performer (some prefer their sound profile to that of Sony's WH-1000XM4) with up to 20 hours of battery life and a more durable design than their predecessor, although the QuietComfort 35 II headphones may be slightly more comfortable.

At launch, they cost \$400, but they've come down in price. We've seen the white version dip as low as \$299, while the black and silver versions have hit \$340.

Photo: Apple AirPods Max feature premium build quality and Apple's virtual surround-sound spatial audio feature for video watching. DAVID CARNOY/CNET | Photo: Beyerdynamic DT 700 Pro X is targeted at content creators who want accurate audio reproduction. DAVID CARNOY/CNET | Photo: The Bose Noise Cancelling Headphones 700 features long battery life and a more durable design than their predecessor. SARAH TEW/CNET

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Lifestyle

Best over-ear headphones for 2022

CNET.com

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While earbuds like **Apple's** AirPods Pro may be the dominant headphones these days, there's something to be said about a huge pair of over-the-ear headphones. These are - if you get the right pair - able to deliver a bigger, richer sound than buds with excellent noise cancellation to block out external noise.

And technology hasn't left over-the-ear headphones behind. The ones available these days are wireless and connect to your devices via Bluetooth. They also often include features like noise cancellation and microphones so you can use them to take calls or even as a **gaming** headset. That said, most wireless headphones - except notably the AirPods Max - include an audio cable, so a wired option is available for those seeking it. All that considered, here's a look at three of the best headphone options that go over your ears.

High-end noise-canceling option

Apple AirPods Max

Yes, they're expensive, but the AirPods Max deliver richer, more detailed sound than lower-priced competitors from Bose and Sony. They also feature arguably the best noise cancellation on the market, along with premium build quality and Apple's virtual surround-sound spatial audio feature for video watching. While they're heavy, they manage to be surprisingly comfortable, though we did have to adjust the mesh canopy headband to sit a little more forward on our head to get a comfortable secure fit when out walking with them. They should fit most heads well, but there will be exceptions. These are one of the best pairs of noise canceling headphones.

Best new wired studio headphones

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PHOTO: The Bose Noise Cancelling Headphones 700 features long battery life and a more durable design than their predecessor. | Sarah Tew/CNET | PHOTO: Beyerdynamic DT 700 Pro X is targeted at content creators who want accurate audio reproduction. | David Carnoy/CNET | PHOTO: Apple AirPods Max feature premium build quality and Apple's virtual surround-sound spatial audio feature for video watching. | David Carnoy/CNET

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Entertainment

Dakota Johnson's 'Cha Cha,' horror film 'Nanny' win top Sundance prizes. These were our must-see movies

Patrick Ryan; David Oliver; Andrea Mandell; Brian Truitt

1,240 words

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English

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Everybody clap your hands.

"Cha Cha Real Smooth," Cooper Raiff's coming-of-age dramedy about a charismatic party starter, was a big winner at this year's Sundance Film Festival, which pivoted from an in-person to all-virtual event because of COVID-19 concerns for the second year in a row. The film, which co-stars Dakota Johnson and sold to Apple for \$15 million, was given the festival's U.S. dramatic audience award Friday.

"Nanny," from first-time feature filmmaker Nikyatu Jusu, took home the fest's other top award, the U.S. dramatic Grand Jury Prize. The atmospheric horror movie, which is still seeking distribution, follows a Senegalese immigrant (Anna Diop) who accepts a job with a wealthy New York couple and is haunted by supernatural visions.

Sundance Film Festival: Ranking the best movies we saw, including 'Am I OK?'

Other major winners include "Navalny," a gripping documentary thriller about Russian opposition leader Alexei Navalny, which earned both the U.S. documentary audience award and the audience-voted festival favorite award. "The Exiles," tracing three exiled dissidents from the Tiananmen Square massacre, took the U.S. documentary Grand Jury Prize.

Nearly seven dozen features premiered at Sundance 2022, which launched late last week and runs through Sunday. USA TODAY's team of film lovers covered the festival from their couches, and picked eight exceptional movies that we'll be talking about all year long.

'After Yang': The movie that makes the case for a best opening credits Oscar

Yes, Kogonada's "After Yang" is a gorgeous meditation on identity and grief, set in a near-future where families can have humanlike robots to help them with housekeeping and childcare. Along with being an Architectural Digest spread come to life, the film also features the most mesmerizing opening credits we've seen in a very long time. Backed by glitchy, pulsating music, Colin Farrell and his family virtually "compete" against other groups from their living room in a "Dance Dance Revolution"-style Wii game, complete with matching jumpsuits and flashing lights. It's an explosion of sound and color that immediately jolts you into Kogonada's vividly realized world, and will undoubtedly inspire many Halloween costumes later this year. – Patrick Ryan

'Am I OK?': The movie that made me want to reach out to an old friend

The feature directorial debut of married couple Tig Notaro and Stephanie Allynne tells the story of Lucy (Dakota Johnson) and Jane (Sonoya Mizuno), two best friends thrown for a loop when Jane gets a job offer in London and Lucy realizes she likes women. Jane's all for Lucy's realization but Lucy's confusion and hesitation in diving into a new world causes a rift. What could easily be a dreary, dramatic dissolution of a relationship becomes a nuanced look at how friendships flourish and falter like changing seasons – and the importance of being there for your friend, no matter what. – David Oliver

'Cha Cha Real Smooth': The movie that made me want to dance again

Raiff catapulted me right quick into the world of bar and bat mitzvahs in "Cha Cha Real Smooth," a not-so-subtle nod to DJ Casper's 2000 hit (and party favorite/eyeroll) "Cha Cha Slide." Raiff plays 22-year-old post-grad Andrew, who becomes a bar mitzvah party-starter and befriends a young mother (Johnson) and her daughter with autism. Andrew's confidence and encouragement of young teenagers – and standing up to middle-school bullies – healed my teenage self and rejiggered my interest in, well, doing a jig the next chance I get. – Oliver

'Good Luck to You, Leo Grande': A movie about sex I actually wanted to watch with my mom?

It's also the only movie I watched twice at this year's virtual Sundance. Rooted in a tour de force performance from an always effervescent Emma Thompson, "Leo Grande" (purchased by Searchlight for \$7.5 million and streaming on Hulu at a later date) sees Thompson as Nancy Stokes, a retired schoolteacher daring herself to a night of passion with a handsome young sex worker (Daryl McCormack). The repressed widow has spent her life adhering to a strict set of principles, but yearns to discover what lies behind a satisfying sexual experience. Enter the chiseled Leo, as adept at banter as he is in navigating Nancy's cheeky to-do list. Expect to see an Oscar campaign for Thompson, who made headlines for appearing in the nude, but more impressively lays bare the arc of a woman resolved to white knuckle her quest for pleasure. - Andrea Mandell

'Master'/'Emergency': The movies that make an Amazon Prime subscription worth it

Streaming services don't mess around gobbling up Sundance movies, and Amazon Prime Video is soon going to be the digital home for two of the fest's best. The excellent "Master" (streaming March 18) is "Get Out" at college with witches, with Regina Hall headlining a social horror thriller that uses scary-movie tropes to examine institutional racism and white supremacy. And the charming and thought-provoking comedy "Emergency" (in theaters May 20 and on Amazon Prime May 27) centers on three university students of color weighing the optics of calling the police when they find an unconscious white girl mysteriously passed out in their house. - Brian Truitt

'Resurrection': The movie with the most bonkers moments in 1 hour and 45 minutes

The nightmarish vision of a charred, screaming baby in an oven might be the craziest thing you'll see in most films but not Andrew Semans' nutty psychological thriller, which was picked up for an IFC Films theatrical release and a digital window on the Shudder streaming service. Those drawn to Sundance creep shows like "The Witch" and "Hereditary" will live for the story of Margaret (Rebecca Hall), a businesswoman and single mom living an ordinary life when she absolutely bugs out seeing a man (Tim Roth) from her past. Suffice it to say, revelations are had (through one knockout eight-minute monologue by Hall), Margaret becomes paranoid to the point of feral, and oh, yeah, there's some cannibalism, toxic sadism and a blood-drenched climax for the cherry on top. - Truitt

'Sharp Stick': The movie that polarized Sundance but is actually super sweet

Would it really be a Lena Dunham project if it didn't make people uncomfortable? Critics have been unduly harsh on "Sharp Stick," the "Girls" creator's offbeat yet unexpectedly moving exploration of a young woman learning to love herself. Sarah Jo (Kristine Froseth) is a sheltered 26-year-old caregiver to a child with disabilities who pursues a married man nearly twice her age (Jon Bernthal). But their messy affair is a mere jumping off point for Sarah Jo to discover what it is that she truly wants from sex and relationships, as well as heal from the emotional and physical scars of a radical hysterectomy. Dunham peppers this modern fairy tale with audacious wit and gentle insights about overcoming heartbreak, and Scott Speedman's cameo as a wholesome porn star is one for the ages. - Ryan

This article originally appeared on USA TODAY: Dakota Johnson's 'Cha Cha,' horror film 'Nanny' win top Sundance prizes. These were our must-see movies

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Corporate: Tech: Microsoft bets big to become the Netflix of cloud gaming

By Assif Shameen

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Flush with cash, the biggest global tech giants — iPhone maker **Apple** Inc, software behemoth Microsoft Corp, search heavyweight Google's parent Alphabet Inc, e-commerce giant Amazon.com Inc and social media Goliath Facebook's owner Meta Inc — have long pondered whether their days of growing by making bolder transformative acquisitions are over. A hostile Congress and President Joe Biden have repeatedly made their distaste for mega mergers known. Last May, Amazon announced it would buy MGM Studios, which owns the James Bond franchise among others, for US\$8.45 billion. That deal has been stalled as both the US Department of Justice and US Federal Trade Commission are opposed to it. If Amazon can't buy MGM, can Big Tech get any major deal done?

On Jan 18, Microsoft announced plans to acquire Activision Blizzard Inc, a video game development studio that has been roiled by claims of workplace sexual misconduct, in an all-cash deal valued at US\$95 a share or US\$68.7 billion (RM287.7 billion) — the largest technology acquisition in history. The deal, if it is approved by regulators in the US and Europe, would dramatically expand the software heavyweight's already sizeable video game footprint, adding an array of popular game franchises including Call of Duty, World of Warcraft and Candy Crush to Microsoft's Xbox console business and its own games like Minecraft, Halo and Doom. It will also catapult Microsoft to become the world's third-largest gaming company by sales, behind China's Tencent Holdings Ltd and Japan's Sony Group Corp, and way ahead of current No 3 player, Kyoto-based Nintendo Co Ltd.

Ostensibly, the move was intended to "accelerate the growth in Microsoft's gaming business across mobile, PC, console and cloud" and "provide building blocks for the metaverse". "Gaming is the most dynamic and exciting category in entertainment across all platforms today and will play a key role in the development of metaverse platforms," Satya Nadella, CEO of Microsoft, said when announcing his company's largest-ever acquisition. The acquisition combines gaming software or content produced by Activision and Microsoft, access to a 400 million-strong gaming community and Microsoft's expertise and hefty footprint in the cloud as well as its experience as the biggest subscription-based software-as-a-service (SaaS) player, to herald a new era in cloud gaming.

To understand the boom in mobile video gaming and the advent of cloud gaming, you need to look at the big picture. There are 7.9 billion people on earth. Five billion of them are internet users. Over 95% of internet users also have a smartphone, which gives them access to mobile internet. Over the past year, nearly three billion people at one point or another played some form of a video game, from fairly simple ones like Angry Birds to more mentally challenging ones like Activision's Starcraft II.

Video gaming globally is now a US\$260 billion industry, if you add in all the related services and peripherals. People spent more on video gaming than they did on movies and music combined last year. Indeed, the video game industry is now bigger than the entire global sports industry, including all the sponsorships. The ubiquity of mobile devices has lowered the barriers to entry and made everyone a potential gamer. Little wonder, then, that Walt Disney Co, Netflix Inc as well as all the big five tech players — Apple, Microsoft, Amazon, Alphabet and Meta — want a piece of the video gaming action.

Mobile is now the largest segment in gaming, with over 95% of all players globally playing games on their devices like smartphones or tablets, though hardcore gamers still prefer game consoles such as PlayStation 5, Xbox Series X and Nintendo's Switch or games on PCs. That has led to a race to develop content or software that can be streamed across platforms — mobile devices, PCs and consoles, the way we can watch movies on cinema screens, TVs, tablets or our smartphones. The popularity of mobile games, most of which are only accessible through apps on smartphones, has put game developers in a bind. Just two players — Apple and Google's Android — dominate the smartphone space and collect 15% to 30% toll on app purchases, though both platforms have plenty of free games for casual gamers.

Apple's App Store generated US\$60 billion in revenues in 2021, Apple said in a statement two weeks ago. Gaming apps account for around 70% of total App Store revenues. According to testimony in Apple's court

case against gaming developer Epic Games Inc last year, gaming apps on the App Store have gross margins of over 75%.

Not surprisingly, Microsoft, Amazon.com, Sony, Tencent, Epic Games and a number of other players are trying to change the game by taking the games to the cloud and focusing on recurring revenues from selling cloud-based subscriptions that bypass Apple and Google. Ironically, Google and Apple are developing their own cloud-based gaming platforms so they don't lose too much of the revenues. Nadella said earlier last week that one reason why Microsoft was so keen on building its own video content empire was because it wants to bypass toll collectors like Apple's App Store and the Google Play Store.

Subscriptions the Holy Grail

The big opportunity is in cloud gaming and the Holy Grail of cloud gaming is gaming subscriptions. Just as cloud-based SaaS powered by subscriptions or recurring revenues was the key driver of the software boom over the past five years, cloud gaming has the potential to be the next big thing. Microsoft is moving to cloud gaming just as video games sales are now mostly digital. Two-thirds of total games software revenues are now digital downloads and within a few years, if you still have an old console that only takes discs, probably the only place you might find games would be on eBay.

So what is Microsoft getting for nearly US\$70 billion? The software firm will get its hands on nearly 400 million monthly active players with its purchase of Activision. At least 250 million of them play games on their smartphones. Microsoft has a Game Pass gaming subscription service with over 25 million players. One reason it is buying Activision is to woo a large enough portion of Activision users to its Game Pass service. Microsoft's Xbox Cloud Gaming service is smaller than its Game Pass but its strategy is to combine Game Pass and Cloud Gaming and come up with something akin to a Gaming-as-a-Service.

If you find all this a little overwhelming, let me explain: Cloud gaming is an emerging technology that allows people to stream games using nearly any internet-connected device with a screen, just like how they stream videos on Netflix, Amazon Prime, AppleTV+ or other platforms. Streaming games is more challenging, though, because games are interactive and require a lot more data to run smoothly. While Netflix moved into mobile games last year, it has so far offered only a handful of games that subscribers must download to an Android or iOS device — not games that can be streamed via the cloud. But Netflix's cloud gaming offerings are coming. Netflix CEO Reed Hastings has identified gaming as the biggest threat to his streaming service and wants to be one of the leading players in cloud gaming.

Cloud-game services raked in US\$3.7 billion in consumer sales in 2021. Omdia, a video games research firm, estimates total cloud-games revenues will exceed US\$12 billion by 2026. Barclays Research in a recent report estimates that total cloud gaming revenues are likely to grow 32% from an estimated US\$4.03 billion last year to US\$5.3 billion this year. In 2024, Barclays forecasts it would touch US\$7.9 billion. Microsoft with its xCloud is a dominant player with more than half of the total market, but others like Google's Stadia as well as Amazon have been growing market share. Both Facebook and Apple have cloud gaming ambitions and several large game developers like Epic Games and Roblox are eyeing the opportunities in the cloud space as well.

From radio to filmed entertainment in cinemas to TV and streaming, what we watch and hear to entertain ourselves has dramatically changed over the past century. As the metaverse evolves, gaming is likely to have a transformative impact on entertainment. Video games are continuing to change the way we entertain ourselves. Adaptations of video games into movies and TV shows have picked up momentum in recent years. Sony is reportedly working on three movies and seven TV shows based on its PlayStation video games. Netflix has already adapted or is working on adapting a number of video game titles into TV shows and movies such as The Witcher, Assassin's Creed, Minecraft, Resident Evil, Cyberpunk and Dota.

Under scrutiny

Will the Microsoft-Activision deal get Washington's seal of approval or will it be blocked to send a message to other tech giants about what is permissible and what is not? The chances of the deal going through are said to be 50-50. Until Biden took the helm a year ago, America had almost outsourced tech regulation to Europe where Margrethe Vestager, the Commissioner for Competition, has imposed hefty billion-dollar fines and called out Facebook, Google, Amazon and Apple for using their power to skirt the rules. Because of the Danish politician's crusade against Big Tech, Brussels, not Washington, DC, is the global capital of tech regulation. Even with Biden in charge, the US government had shown little interest in Microsoft when it came to reining in its expansion. But the Activision deal is different. US regulators are likely to scrutinise it and even if they do somehow approve it, the deal is likely to be blocked by European regulators.

For its part, the software giant is likely to argue that the video gaming industry is very competitive, and that it is essentially using the acquisition to beef up its own gaming IP (intellectual property) portfolio. Microsoft already owns a smaller game development studio, the Xbox Game Studios. In 2020, Microsoft bought

ZeniMax Media, the parent company of Doom and Fallout studio Bethesda Softworks, in a US\$7.5 billion deal. But that was a small deal and done before Biden took office.

What does it all mean for Microsoft's stock? Regular readers of my Tech column will recall the piece I wrote on the software behemoth exactly three years ago when the stock was languishing around US\$96. The key to how successful Microsoft would be was how much traction it had in the cloud space, I wrote then. Not just as a competitor to Amazon's AWS cloud infrastructure unit but also its ability to move everything else it was offering to the cloud, including gaming. So, what's the scorecard? Consider this: The stock has more than tripled since my late-December 2018 column. That's how successful the market thinks Microsoft's cloud push has been.

Over the next three years, how well Microsoft does will depend on whether it remains on regulators' radar. One reason the software giant has done well is that regulators have been laser-focused on the parent companies of Facebook and Google or, to a lesser extent, Amazon and Apple. Whether the Microsoft-Activision Blizzard deal goes through over the next 18 months, one thing is certain: Cloud gaming is the game in town and every player wants to be the Netflix of gaming.

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opinion

Microsoft and the Mania for Mergers; Kara Swisher

By Kara Swisher

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There's been no shortage of excellent analyses on why Microsoft agreed to buy Activision Blizzard this week for a staggering \$70 billion in cash. It could be a simple strategic fit in the fast-growing video games industry or an opportunistic acquisition in the midst of a sexual harassment investigation that's dented Activision's stock. Others surmised it filled a need for Microsoft to bulk up against other bigger competitors and, naturally, something about the metaverse, which feels like the justification for everything these days. But one reason sticks in my mind: Because Microsoft can.

The software and services behemoth has the money (and more) as one of the most valuable entities on the planet — just behind **Apple**. Moreover, it has the technological expertise in artificial intelligence, cloud computing and devices — its Xbox journey has been an unqualified hit, unlike some of Microsoft's other endeavors — to handle the complex operations that **gaming** requires.

If I were the head of a cash- and stock-rich company like Microsoft right now, gobbling up all the juicy bits is about the only thing I would be focused on — given the ease at which mergers continue to sail through the system.

So, so many mergers. In a pandemic year, when one might imagine deal-making would weaken as companies focus on operational matters, just over [4,100 mergers](#) were in front of the Federal Trade Commission and the Department of Justice. That is double the number in 2020, with the last month of 2021 clocking close to 300, the highest number in a decade.

While the Microsoft-Activision transaction will surely be scrutinized by an array of federal agencies, the sheer flood of deals has made it nearly impossible for regulators to do much except in the most egregious cases. Despite all the bluster from Congress and the White House about reining in Big Tech, Microsoft's lawyers must not feel very worried if they are moving forward with a buyout of that size.

The problem seems to stem in no small part from underinvestment in regulatory agencies. Staffing at the F.T.C. has remained static, according to [F.T.C. chair Lina Khan](#) in a joint interview she did this week with me and Andrew Ross Sorkin for the Times and CNBC.

"We are severely under-resourced," Khan said, noting that she presided over 1,100 employees, which is only two-thirds the size of the staff in the 1980s. "We have the same number of people responsible for investigating these transactions, [yet] the number of transactions has dramatically increased," she said. "That creates significant strain."

"We have to make very difficult choices about which billion-dollar deals we're going to ensure we're closely investigating, but they're very real trade-offs, in terms of what that work is going to come at the expense of."

And when I later asked about what she needs the most, she quickly said, "resources," which are not actually coming. The much-needed \$500 million that Congress had moved to send to the F.T.C. was tied up in the recently failed social spending bill. And another bipartisan bill drafted by Senator Amy Klobuchar, Democrat of Minnesota, and Senator Chuck Grassley, Republican of Iowa, that would raise funds via merger filing fees, part of an innovation and competition bill that passed in the Senate, is idling in the House.

Meanwhile, tech outfits like Microsoft have money burning giant holes in their khaki pockets, since the pandemic has been very, very good to them. Valuations and cash flow have grown massively in the past year (\$3 trillion Apple was merely a \$2 trillion company last August). That's created an urgency to cull the herd and pick up needed assets for the next stage of development before competitors do.

So it ought to come as no surprise that the F.T.C.'s Khan and the like-minded Jonathan Kanter, the D.O.J.'s antitrust head, announced a push for [new merger guidelines](#) this week, ironically the same day that Microsoft

and Activision announced their pending nuptials. It's an attempt to rethink their approach in the absence of legislation that might overhaul antitrust laws dating from a hundred years ago.

Importantly, the F.T.C. is trying to rethink how its evaluation of mergers "may underemphasize or neglect" other impacts such as labor, innovation and what Khan referred to as "quality degradation" via privacy incursions and more. In other words, will consumers, and smaller competitors, suffer from a bad deal that appears to be a good deal?

Tech companies were singled out in the guidelines request, with a whole part asking for comment on whether digital competition should be treated differently. That will be crucial, given how much data these networks have on us and how many of them are on both sides of the market, as both platforms and sellers.

It's daunting, even as Khan appears frank about the challenges. "I think it takes courage. These are enormously well-resourced companies. They are not shy about deploying those resources. And I think in these moments, it's important to ensure where we're really showing these companies, but also showing the country, that enforcers are not going to back down because of these companies flexing some muscle or kind of trying to intimidate us," she said. "But I think what we can see is that inaction after inaction after inaction can have severe costs, and that's what we're really trying to reverse."

Khan has a short amount of time to do so and a continuing flood of mergers. If you think investment bankers and their tech clients aren't sharpening their pencils over a range of possible targets in gaming and well beyond (hello, Pinterest!), you haven't been paying attention.

One tech exec gamed out the current situation said to me, in a startling moment of honesty: "They look at [these deals] and grind everyone for a bit and say yes."

The question is: How do our beleaguered watchdogs, when it counts, get to no?

4 Questions

I reached out to Jonathan Greenblatt, chief executive and national director of the Anti-Defamation League. He discussed his new book — "It Could Happen Here: Why America Is Tipping from Hate to the Unthinkable — and How We Can Stop It" — and social media's role in spreading hate. I've edited his answers.

Your book paints a scary picture of the future, as radical elements continue to gain strength and upend democracy. What is the single biggest reason for that growth, in your opinion?

A lot of this stems from an increasing distrust from many sectors of society of our longstanding democratic institutions — whether it be Congress or elections or the courts — and this distrust is fueled by misinformation, disinformation and conspiracy theories that, to a large extent, have been disseminated and continue to proliferate on social media. We always have dealt with antidemocratic forces attempting to sow distrust in our system; that is not unique to this moment. However, what is new is that these bad actors now have social media to amplify their message. And without proper guardrails in place to regulate these platforms, the problem will metastasize into real-world violence.

The "it could happen here" threat has grown over the past few decades, but the advent of social media is the new factor you identify in the timeline. What do you view as the most dangerous part of its power?

The most dangerous part is its sheer power. Social media is ubiquitous with almost unimaginable and instantaneous reach. It's insatiable, because the business model drives clicks and earns returns like a beast that you can never satisfy; and it's unchecked with virtually no editorial boundaries or regulatory guardrails. This is a toxic combination. For these reasons, we have called for policymakers to reform Section 230 [of the Communications Decency Act] and to do it dramatically and urgently. We need to make social media companies legally accountable when their algorithms, product features or policies promote hate, terrorism and/or give rise to civil rights violations. No other industry in America is so exempt from responsibility.

Your organization was part of a group that led an ad boycott effort against Facebook. Yet, today Facebook is bigger than ever. What impact do such efforts have?

[Stop Hate for Profit](#) was not a long-term boycott, per se, but designed as a one-month ad pause. And I believe that it was a serious wake-up call for Facebook and all of Silicon Valley. It was the first time in memory that advertisers, organizations, advocacy groups and the public came together to send a message to Big Tech that they had to stop the rising tide of disinformation and hatred on their platforms.

It successfully raised public awareness of the severity of the problem and the need for real reforms. It brought together a broad coalition of civil rights groups, major advertisers, nonprofits, marquee celebrities and others who all shared the same goal: to press Facebook to stop profiting off hate. It had the effect of convincing

other social media companies to step up their game in removing hate speech and disinformation. Many of them have made significant changes to their platform policies since last summer.

And, perhaps most importantly, Stop Hate for Profit pressured Facebook to start making its own changes that had been sought for years. We believe many of the policy reforms Facebook has made over the past year (banning Holocaust denial; removing QAnon content; taking Donald Trump off the platform in the wake of the insurrection; releasing its Civil Rights Audit; hiring a vice president of civil rights) can be ascribed to the pressure brought to bear during and after the campaign's monthlong ad pause. Still, policies are only as good as their enforcement and what we have learned is that Facebook's policies are lackluster at best. So, we will not relent, and instead, keep up the pressure.

What else can be done to turn back this trend toward authoritarian impulses? Are there any hopeful signs?

I have tremendous hope that we can turn back the tide of hate in this country. The good news is that there are many good people who are willing to get into the trenches to fight back against pernicious stereotypes. We saw this after Pittsburgh, when so many good people came forward — Christians, Muslims, Jews and people of no faith — to help support the community and turn a tragedy into an opportunity to do good. We see this happening now in the wake of the hostage crisis in Colleyville.

Lovely & Loathsome

This is a new feature I will post from time to time calling attention to the worst and also the best things to happen in tech and media this week.

Lovely: The huge success enjoyed by the epic animated movie, "Encanto," from Disney and, most especially, the fertile imagination of Lin-Manuel Miranda, due to his earworm of a song, "We Don't Talk About Bruno." As [The Times noted](#), "the song recently topped the Spotify, Apple Music and iTunes charts in the United States and reached No. 1 on the global YouTube music videos chart." It currently sits at No. 4 on the [Billboard Hot 100](#). A lot of that has been due to explosion as a meme on social media, especially TikTok, where creators are having a ball paying tribute. It's a moment that shows just how good digital music can be. And don't miss this side-by-side of the reference choreography on [YouTube](#) and [TikTok](#).

Loathsome: The Beijing Olympics next month may come with a giant dose of digital surveillance. Chinese authorities are trying to create a zero-Covid bubble for the athletes, but, [one report noted](#), "researchers at the University of Toronto's The Citizen Lab said a virus-monitoring app all attendees must use was found to have a 'simple but devastating' encryption flaw that could allow personal data including health information and voice messages to leak." Count me a fan of The Citizen Lab, despite The International Olympic Committee and The Beijing Winter Olympic Organizing Committee saying the software problems have been fixed.

PHOTO: (PHOTOGRAPH BY The New York Times; Photography by Blend Images/Getty Images FOR THE NEW YORK TIMES)

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OpEd

Online fraudsters gaming the NDIS

VIKKI CAMPION

745 words

22 January 2022

Courier Mail

COUMAI

CourierMail

47

English

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Those with mild-mental disability and others lying about their condition to get support are burdening the NDIS and risking the system failing those who need it most SOCIAL media influencers are exploiting welfare safety-nets by posting self-described tutorials on how to “lifehack” schemes designed to help people with severe and permanent disabilities.

On TikTok, a woman who says she is autistic, boasts about how the National Disability Insurance Scheme (NDIS) paid for her new \$367 Apple AirPods, horseriding, and private-art classes. Another dances to the camera and explains how the NDIS pays for her cleaner and gardener, while a third – now removed post – provided step by step tutorials on how to game the system with tips to exaggerate the severity of your condition.

“Some people think I am a dole bludger, I’m not, sometimes you can’t work, but yes ... go get that bag everyone!” one creator says.

But criticising the NDIS in any way is a landmine.

The minister responsible for the NDIS, Linda Reynolds, copped an enormous backlash for even just daring to suggest that people should be accountable for their support packages through an independent review process – even though the NDIS is on track to be more \$8 billion more expensive than Medicare in three years.

In 2024-25, a system that supports under 500,000 Australian’s will be more costly than one that looks after 25.7 million people.

Some people on the NDIS do need a cleaner and someone to do the gardening, just as horse riding and art classes are genuine therapy for people with disabilities.

But deliberately lying about your mental-health to get support you don’t need is against the interest of everyone who may one day need a sustainable NDIS themselves. As NSW Senator Hollie Hughes says: “You never know when you will need the NDIS. You might be in a car crash and become a quadriplegic.” Originally, the NDIS was created for people with severe and permanent disabilities – people who couldn’t dance on a lip-synching app or post a video back in response to a social media influencer bragging about rorting the system even if they wanted to.

It was also created for equity no matter where you lived, so a child in Tasmania should get the same services in North Queensland.

As the cost soars to \$60 billion a year, we must remember the NDIS was originally intended for people whose needs were at risk being forgotten in the swarms of new applicants seeking packages for neither severe nor permanent disabilities.

Instead, it’s been nine years since the birth of the NDIS, and where it should be investing and building skills so the cost of long-term care is reduced, it’s done the opposite.

The total lifetime cost for the 466,619 existing NDIS participants has been estimated by the latest audit released in October to be \$940.5 billion.

Average annual payments within two years are projected to be \$71,700 each for people with psychosocial disabilities aged 19 to 24. There will be 670,400 participants in the scheme at the end of June 2025, with 94.5 per cent under the age of 65, significantly higher than estimated by the Productivity Commission in 2017, with total participant costs to grow to \$41.4 billion in 2024-25.

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Usually, elections bring division, but the behemoth of the NDIS requires both major parties to commit to how they intend to take it to make it sustainable into the long term.

Participants are entering the scheme at a much higher rate than ever anticipated.

The people who are most focused on the sustainability of the NDIS are those parents of children with disabilities, who will need it when they are no longer there for them, for whom caring for their child is a lifelong commitment.

Recent reviews suggest that the NDIA should undertake “detailed analysis to better understand the drivers of higher than expected new entrants,” and “strengthen its ability to detect fraud”.

On top of that, in broadening the goalposts away from what was severe, to include what was once known as mild intellectual impairment, the entire NDIS policy has shifted to be about early intervention predicated on children with milder autism – leaving severely impaired children in mainstream care. In trying to become kinder, the NDIS faces failing the people who need it most.

Document COUMAI0020220121ei1m0005y

Business

Microsoft enters epic battle for the internet

ERIC JOHNSTON

668 words

20 January 2022

Hobart Mercury

MERCURY

Hobart

31

English

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TECH giant Microsoft has made an all-in bet on the future control of the internet and this time it doesn't want to get left behind.

A \$US68.7bn (\$95.5bn) all-cash move on Activision Blizzard, the **gaming** major behind titles such as Call of Duty, Candy Crush and World of Warcraft, is shaping up as more than a land grab for content, it's designed to muscle out arch rivals **Apple**, Google and Facebook in the distribution game.

What many of us used to call virtual reality has evolved into the metaverse – a totally immersive online experience. There's big dollars at the end of this tech rainbow but no one, including Facebook's Mark Zuckerberg, is sure how to make them yet.

Microsoft has a bit more of a real-world use for it in the battlefield of tech. The gaming experience is immersive and titles like shoot-them-up game Call of Duty rely on multiple players – or communities – anywhere in the world. This makes it ideal for when the metaverse arrives.

In the not-too-distant future, games will be streamed through mobile handsets using hardware including virtual reality headsets and gloves. There is much evolution needed. The devices are still expensive and can't be worn for a long amount of time, while users report a very undeveloped experience.

But Microsoft, which is the world's fifth most profitable company, is not paying a 45 per cent premium for Activision's shares for mere blue sky, it's got a hard gaming business model in mind, where it will own the distribution and data. The scale of the deal is significant, given it ranks as Microsoft's biggest ever acquisition coming after the \$US26bn buyout of LinkedIn in 2016.

After the deal, Microsoft will be the world's No.3 gaming company by revenue, behind China's Tencent and Japan's Sony.

Activision Blizzard has nearly 400 million monthly active players across the world and the hope is to build this out into recurring revenue streams and move them on to Microsoft's Game Pass store, which has more than 25 million subscribers.

Sony's shares fell 10 per cent in Tokyo on Wednesday with the prospect of a very big gorilla playing even more aggressively in its space. Tencent's Nasdaq-listed shares were off 5 per cent.

Gaming is the largest and fastest growing category in the entertainment industry. Lockdowns around the world and more people staying at home over the past two years have turbocharged the growth. The industry is expected to grow to 4.5 billion consumers by the end of this decade, up from 3 billion now. Microsoft's move expands its library for its two-decade-old Xbox console, adding to titles including Minecraft, Halo and the recently acquired Fallout and Doom. But it is the additional reach in mobile – the single largest segment in gaming – where it sees opportunity.

Gaming remains an intensely fought contest and is littered with expensive titles that didn't make it. Like Hollywood, it has relied on rebooting the big hits. It's worth noting games such as Minecraft are more than a decade old. Call of Duty and Warcraft are pushing 20 years, while Doom is positively middle-aged and is about to hit 30 years old. All have years of longevity left by moving into the mobile and metaverse-style experience.

For his part, Microsoft chief executive Satya Nadella also has a firm eye on the dollars with controlling the distribution. Even though Microsoft itself is one of the largest companies in the world it too feels the pinch from Apple's App Store and Google Play Store that dominate the distribution of mobile gaming. Nadella

concedes companies such as these make more money from distribution than Microsoft does from its share of selling game titles. In the future of the internet, he wants to change the script.

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Hindustan Times, business

Gaming is the focal point for Samsung's next mobile chip, but caveats may apply

Vishal Mathur

690 words

18 January 2022

Hindustan Times

HNTM

English

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India, Jan. 18 -- Samsung has announced its next challenger in the mobile processor space - it's called Exynos 2200. It is set to power the company's next line-up of smartphones, expected to be the Galaxy S22 series, which should be unveiled next month.

This chip will sit across the table from the likes of Qualcomm's Snapdragon 8 Gen 1, MediaTek Dimensity 1200, Huawei's Hisilicon Kirin 9000 series and **Apple** A15 Bionic. All said and done, will the Exynos 2200 take a big step forward in terms of **gaming** on smartphones?

The not-so-secret ingredient for the Exynos 2200 is AMD's RDNA 2 graphics architecture, and the gaming console inspiration that comes with it. But what really is the big deal about the AMD RDNA 2 technology? This is the architecture that has been used as the foundation for what Samsung calls the Xclipse graphics processing unit (GPU) that'll sit alongside the new processor.

Incidentally, it is this very architecture that AMD has used as the basis for developing graphics for the latest generation Sony PlayStation 5 and the Microsoft Xbox Series X and Xbox Series S consoles.

That means gamers will be able to take advantage of features such as Ray Tracing - in gaming, this tech is used to simulate lighting effects, patterns of rays and reflections in graphically rendered scenes for more realism. The Exynos 2200 will be the first ever implementation of hardware-accelerated ray tracing on mobile GPUs, used in smartphones.

But before you begin to expect console-esque gaming on your phone, there are certain variables that will likely come into play. Heat dissipation has a huge bearing on how fast the processor will clock once the virtual ceiling is in place to prevent overheating. Phones heat up quicker than a PC, and most definitely much more than a gaming console.

Each phone may get a different level of throttling, depending on size and capacity of the cooling architecture. That will decide for how long the maximum performance is available before things are clocked down to keep the internals safe. Those are basics for gaming on phones, no matter the tech or hardware in place.

Secondly, graphics intensive games may need updates to be able to take advantage of all the benefits of the new architecture, which is likely to happen in due course.

Finally, how much free RAM is available at the time (the apps running in the background have a say in this), will have a bearing on performance.

The Exynos 2200 is manufactured using Samsung's 4-nanometer (nm) EUV process. The Snapdragon 8 Gen 1 also has a similar architecture, for instance. Yet, the Apple A15 Bionic which is still the fastest mobile processor for smartphones, has been made on the 5nm process.

There will be a tri-cluster structure at play in Samsung's newest chip - this will have one high performance ARM Cortex X2 flagship core, three cores that'll be ready to handle the medium performance tasks while four cores that are optimized for apps that don't require as much performance grunt, to save on battery.

We will get to know the exact core speeds for this chip when the Samsung Galaxy S22 is announced next month. Some battery life advantages are to be expected in theory - a smaller physical size of the chip and the on-the-fly adjustment of settings for performance, should help draw more runtime from each battery charge cycle.

Right now, we do not know how the Exynos 2200 will perform in the real world. Till we get to use the next line of Samsung's flagship phones, that is. Samsung uses the Exynos chips in flagship Galaxy S phones in many countries including India, though phones sold in the US are powered by Qualcomm processors.

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Life+Travel

These phones are everyday essentials Companies like Apple and Google have been busy updating models

CNET.com

515 words

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English

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Just in time for the new year, companies like Apple and Google have been busy updating their top phone models. The new iPhone 13 Pro and Pixel 6 Pro boast wireless charging, amazing rear camera setups, powerful processors for lag-free gaming and 5G. But if you're on the hunt for a new smartphone, those models aren't the only ones to consider, with competitors such as Samsung, OnePlus, Motorola and Sony Xperia all offering great specs at a range of prices. Samsung even offers what others don't -- foldable phones, including a flip phone.

The sheer amount of solid smartphone competition gives you, the customer, great options to choose from at whatever price suits your budget, regardless of whether your biggest concern is an AMOLED display, high-speed data or a cracking camera.

To help you figure out the best of the best, we've rounded up our picks for the best phone to buy in 2021. The three below are the top of the bunch.

THE ALL-AROUND BEST PHONE

Apple iPhone 13 Pro

The iPhone 13 Pro is the best phone Apple produces, and it received a stellar score in our review. The new smartphone adds a third rear camera with 3x optical zoom (up from 2x on the iPhone 12), a stainless steel body and a ProMotion screen with refresh rates up to 120Hz for smoother scrolling, and lists at the same price as the iPhone 12 Pro.

TOP-OF-THE-LINE ANDROID SMARTPHONE

Samsung Galaxy S21 Ultra

As Samsung's elite flagship phone for 2021, the Samsung Galaxy S21 Ultra features a brilliant 6.8-inch AMOLED display with an ultrasmooth 120Hz refresh rate that also supports Samsung's S-Pen stylus, an awesome rear camera with incredible zoom skills and 5G connectivity for super speedy data. It's powered by the top-end Qualcomm Snapdragon chip for amazing performance. This is the best in mobile technology that Samsung has to offer, and it's the Android phone to go for if you're keen to put cutting-edge mobile phone tech in your pocket.

FLAGSHIP PHONE WITH A GREAT VALUE

Google Pixel 6 Pro

The Google Pixel 6 Pro's unique design, great software additions, superb camera quality and solid all-around performance have already earned the phone an excellent rating in our review. With performance that's every bit as good as its design, it's the best phone Google has ever made. The main camera is on par with the best iPhones. And at \$899 for the base 128GB model, it trounces its premium phone rivals in price.

For more reviews of personal technology products, visit www.cnet.com.

Photo: The iPhone 13 Pro has a ProMotion screen with refresh rates up to 120Hz for smoother scrolling.
PATRICK HOLLAND/CNET | Photo: Samsung Galaxy S21 Ultra features a 6.8-inch AMOLED display.

SARAH TEW/CNET | Photo: The Google Pixel 6 Pro offers superb camera quality. Stephen SHANKLAND/CNET

Document TRIB000020220116ei1g00001

culture

Reality+ by David J Chalmers review — how we could all soon be living in the Matrix

Josh Glancy

1,049 words

16 January 2022

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[sundaytimes.co.uk](https://www.sundaytimes.co.uk)

SUNDTI

English

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Will real life soon be a mere interruption to 18 hours plugged into a computer? Or are we already living in a simulation? This gripping book details an alarming future

Virtual reality is coming. Forget the fact that Google glasses were a flop and Oculus headsets remain a fringe indulgence. Fully immersive, interactive, computer-generated realities, alternative worlds in which people can touch, taste and smell, are hurtling towards us. Mark Zuckerberg has gambled his trillionaire future on VR. **Apple's** "mixed reality" headset is due this year. We are just at the beginning of this journey into the metaverse and beyond.

How should we engage with this new reality? Should we welcome our new virtual overlords or rise up in defence of our humanity? In

Reality+

, the most alarming and thought-provoking book I've read in years, philosopher David Chalmers argues that not only should virtual reality be welcomed, but that many of us will end up living the bulk of our lives in it. This book is a dangerous manifesto for the future of humanity.

Virtual worlds throw up all manner of philosophical questions. Are they real? If they are, do we have moral obligations to virtual humans? And can you lead a meaningful virtual life? To each of these questions Chalmers's answer is a provocative but resounding yes. In fact he shares the view of Elon Musk that we are probably already living inside a simulated virtual world.

Chalmers is a co-director of New York University's Center for Mind, Brain and Consciousness, and is best known as the creator of the phrase "the hard problem", which describes humanity's so far unsuccessful attempt to understand the source of consciousness, and inspired an eponymous Tom Stoppard play. Reading this book is inevitably a demanding endeavour, but Chalmers's accessible style and extensive cultural reach also make it an enjoyable one.

Ever since watching

The Matrix

in 1999, Chalmers has been fascinated by the idea of whether we might be living in a simulation. The debate over whether we can actually know reality is as old as philosophy itself. Plato and Descartes spent much time fretting over it. In

The Matrix

the Wachowskis brought the "brain in a vat" theory memorably to life, suggesting that our brains may be sitting in a tank somewhere, plugged into some kind of sinister simulation. Only by taking a "red pill" can we escape the illusion and see reality as it truly is.

Chalmers thinks we are "probably" in a simulation. His argument is that if creating perfect simulations is technologically possible, it has probably already been done many times somewhere in the universe, meaning the odds that we are already living in one are high. Perhaps then God our almighty creator is just a spotty teenage computer gamer in the real world above, playing an advanced version of

The Sims

The question of whether we are really living in a simulation is intriguing, but impossible to prove either way and feels instinctively wrong. “Not irrefutable, but obviously nonsensical,” as Wittgenstein once put it. The more pressing debate revolves around the virtual worlds we are on the cusp of creating today. It could be 30 years, it could be 80, but in some of our lifetimes Chalmers expects that we will be able to simulate reality fully.

He approaches VR through a theory of “virtual realism”, proposing that just because something is digital doesn’t make it any less real. Virtual worlds are not illusions, as many philosophers have argued, but real virtual places where real virtual things happen. A high street in the metaverse is a “real place in a virtual world”. VR headsets are not “illusion machines but reality machines”. A VR game of tennis still has a real winner.

VR users may have a virtual body, but the actions they perform with that body are real actions. He cites the 2018 documentary

Our Digital Selves: My Avatar Is Me!

which followed 13 disabled people who adopt avatars in Second Life, an online virtual world. They emphasise that their virtual bodies did not replace their physical ones, but were nonetheless very real to them. “This is another part of who I am,” one participant said.

If virtual worlds are real, Chalmers says, then so are those who live in them. If we can perfectly recreate consciousness in a simulated human being, and Chalmers thinks we probably can, then these sims should have the “same moral status as ordinary humans”. Take the example of a Vulcan from

Star Trek

; we would expect the obviously conscious Spock and his ilk to have rights and obligations much like their human counterparts.

On a planet where the environment is ravaged, inequality is rife and space is limited, could many of us choose to spend the bulk of our time in virtual reality? Quite possibly. We could live in a “post-scarcity” world of sprawling mansions and breathtaking nature, spending time with people we love and admire without having to travel or earn any money.

Eventually, Chalmers believes, “many people will freely choose to live most of their lives in virtual worlds” and this will be a sensible choice. The pursuit of physical reality “may come to seem a novelty or a fetish”. This life could involve living in a bunk room and plugging in 18 hours a day, going offline only — one presumes — to eat, sleep and relieve oneself. Chalmers is fine with this.

Is he correct? Such is the speed and power of the transformation we are experiencing, I wouldn’t bet against it. Although I also wouldn’t underestimate the power of birth, death, sex, food, exercise, health. Our physical bodies will still demand physical attention.

Chalmers is rather pleased with his vision for our virtual future. I find it appalling. This isn’t a world in which I want to live. Everyone should read this important book to understand where we may be heading and how it will be rationalised. Then take a red pill and join the resistance.

Reality+: Virtual Worlds and the Problems of Philosophy by David J Chalmers

Allen Lane £25 pp544

Document SUNDTI0020220116ei1g0004t

'Fortnite' to Return to **Apple** Mobile Devices Thanks to Nvidia -- Market Talk

1,283 words

14 January 2022

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Dow Jones Institutional News

DJDN

English

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0947 ET - Nvidia says "Fortnite" is coming back to **Apple** iPhones and iPads next week by way of its cloud-**gaming** service, GeForce Now. The combat game was booted off of **Apple** and Google's app stores in 2020, resulting in legal battles between its developer, closely held Epic Games, and the tech giants that haven't been resolved. "Fortnite" on GeForce Now will launch in a limited-time closed beta on iOS phones and tablets through the Safari web browser, as well as on Android devices through the streaming service's Android app, Nvidia says. The company also says it teamed up with Epic to make the GeForce Now version of "Fortnite" touch-friendly with new controls. (sarah.needleman@wsj.com; @saraheneedleman)

0913 ET - Real estate brokerage Redfin says a new report shows fewer homes were for sale in December, driving seasonally-adjusted home sales down 3.6%. This marks the largest month-over-month sales decline since May 2020. Home prices surged 15% from a year earlier, the brokerage says. "Home sales are slumping, but not for lack of demand," says Redfin Chief Economist Daryl Fairweather. "There are plenty of homebuyers on the hunt, but there is just nothing for sale." Fairweather adds: "In January, I expect to see more buyers and sellers in the market, but demand will increase more than supply -- pushing prices higher at the start of this year." The typical home sold in December went under contract in 24 days--a week faster than a year earlier, but up from the record low of 15 days in June. (michael.dabaie@wsj.com)

0844 ET - With the US auto industry still grappling with chip shortages and other supply-chain issues, JPMorgan downgrades Sirius XM to underweight from neutral, saying the satellite radio company faces challenges to its self-pay net adds. JPMorgan says it expects Sirius to deliver initial 2022 guidance below Street views when it reports 4Q on Feb. 1. The analysts also expect a slower buyback pace that likely will weigh on shares, but they also think Sirius will pay a special dividend this year, which could boost sentiment. JPMorgan trims its price target to \$6 from \$7, saying it believes the stock is fully valued. Sirius down 2.5% premarket. (colin.kellaher@wsj.com)

0840 ET - JP Morgan is expecting higher net interest income in 2022 -- with contributions both from loan growth and from higher interest rates ahead of widely expected Fed moves this year. The bank sees credit-card balances returning to 2019 levels, a trend that could help fuel loan growth that could contribute \$4B more to NII this year, JP Morgan projects. Higher rates are likely to boost NII by another \$2.5B over 2021 levels, the bank says. Credit-card balances have been lower during the pandemic as fiscal stimulus helped improve household finances. (matt.grossman@wsj.com; @mattgrossman)

0838 ET - Travel and entertainment expenses are likely to look more like pre-pandemic norms for JP Morgan in 2022, the bank projects. That trend, along with higher compensation plans, will likely drive a \$2.5B rise in structural expenses this year compared with 2021. JP Morgan also expects investment expenses to rise by \$3.5B. Together, those factors will likely push the bank's total adjusted noninterest expenses to about \$77B in 2022. The contribution from volume- and revenue-related items is likely to come out in the wash, with higher volume-related expenses likely to be offset by lower depreciation of auto leases, the bank projects. Shares fall 4.1% premarket. (matt.grossman@wsj.com; @mattgrossman)

0833 ET - The Omicron wave has been a big disruption to service-intensive businesses that rely on an army of workers to serve customers. Ski operator Vail Resorts says that absences related to the virus have hindered an already difficult ski season. "The impact of Covid-19 cases amongst our employees and the related employee exclusions from work resulted in further challenges in an already difficult staffing environment," Vail reports, adding that it is counting on \$20M of bonuses paid to workers to help improve retention. Those setbacks came on top of a slow start to the season due to weather -- although ski conditions have improved since Christmas, the company says. Still, Vail is standing by a FY2022 Ebitda forecast it gave on Dec. 9. Skier visits are down year over year, but ski-school revenue and dining revenue have improved, Vail says. (matt.grossman@wsj.com; @mattgrossman)

0805 ET - Sherwin-Williams shares are down 4.4% pre-market trading after the company previewed 4Q results well below Wall Street's expectations. Demand has been solid, but higher input costs, transportation challenges and staffing issues have made it harder for the company's Americas division to get paint cans into

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customers' hands, the company reports. The first quarter isn't likely to bring a great reprieve, with CEO John Morikis suggesting that limited material availability and Covid-19-related issues will stick in the first three months of 2022. Sherwin-Williams says it is planning to hike prices by 12% in its Americas group on Feb. 1 -- one bit of evidence that corporate America isn't yet done making inflationary adjustments. (matt.grossman@wsj.com; @mattgrossman)

0801 ET - With the FDA review of major depressive disorder drug candidate AXS-05 nearly five months into overtime, Axsome Therapeutics bull Truist grows less enthusiastic, slashing its price target on the stock to \$90 from \$160. Truist, which keeps its buy rating on Axsome, says it still thinks AXS-05 can eventually win FDA approval, but the analysts lower their probability-of-success forecasts due to a lack of updates or clarity on the FDA review and cut their peak penetration estimates for the drug amid intensifying competitive dynamics. The FDA previously missed its Aug. 22 target action date on AXS-05 after flagging deficiencies and said its review would continue. (colin.kellaher@wsj.com)

0734 ET - European stocks mostly fall after downbeat overnight trading in Asia as traders await U.S. earnings later. The Stoxx Europe 600, DAX and CAC 40 all drop about 0.8% and the FTSE 100 is down 0.2%. Brent crude gains 1% to \$85.29 a barrel. The Dow looks set to open about 44 points lower, according to IG data. "Thursday saw a resumption of the downward move for U.S. stocks, causing an erosion of some of the gains made earlier in the week," IG analysts say. "It was a similar story in Asia overnight. Today sees the start of the 4Q earnings season for U.S. stocks, and JPMorgan begins the parade along with Citigroup this afternoon." (philip.waller@wsj.com)

0234 ET - The FTSE 100 is expected to open 38 points lower at 7525, according to CMC Markets, after downbeat trading in Asia and on Wall Street. Shares in mainland China are flat and markets in Hong Kong and Japan drop after the Dow closed 0.5% adrift Thursday. Still, the price of a barrel of Brent crude gains 0.4% to \$84.81 a barrel. "As a result of the weakness in U.S. and Asia markets, today's European open looks set to be a weaker one, with the focus on U.S. retail sales for December, where we'll see how much of an impact the Omicron outbreak has had on consumer demand before Christmas," CMC analyst Michael Hewson says. (philip.waller@wsj.com)

(END) Dow Jones Newswires

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Daily

Apple Again Inches Toward \$3 Trillion. Up Next Are Earnings and AR Glasses.

By Eric J. Savitz

635 words

13 January 2022

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Barron's Online

BON

English

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Apple's next earnings report is now just two weeks away, and Wall Street has begun to adjust its forecasts for how the numbers will turn out.

As the stock continues to flirt with the \$3 trillion valuation mark, there is growing confidence that **Apple** (ticker: AAPL) can both report better-than-expected results for the December quarter results and offer strong guidance for the March quarter. And anticipation is growing for **Apple's** launch of a major product category: glasses and headsets for augmented and **virtual reality**.

J.P. Morgan analyst Samik Chatterjee said in a research note Thursday that the shares have rallied about 15% since Apple reported September quarter results, in a period in which the S&P 500 gained only 3%. He says the rally reflects expectations of strong earnings, driven largely by a better-than-expected iPhone 13 sales cycle. Chatterjee's view is that December quarter results will modestly beat expectations despite problems in the supply chain.

For the December quarter, Chatterjee sees revenue of \$119 billion and profits of \$1.94 a share, slightly ahead of the Wall Street consensus call for \$118 billion and \$1.88 a share.

The key to how the stock will perform after the results will be management's financial forecasts, he said. His March quarter estimates call for revenue of \$95 billion and profits of \$1.50 a share, well above the consensus call for \$90 billion and \$1.33. For the September 2022 fiscal year, his model calls for \$382 billion in revenue and profits of \$5.95 a share, while the consensus is \$382 billion and \$5.73 a share.

Chatterjee's call is slightly complicated by the fact that Apple stopped providing detailed quarterly guidance at the start of the pandemic and hasn't resumed the practice. [On the most recent earnings conference call](#), CFO Luca Maestri cautioned that the company would see a bigger impact from supply constraints in the December quarter than in the September quarter. He also said that the company was expecting "very solid" growth in the quarter, with year-over-year increases in all areas other than iPad, where he anticipated a sales impact from supply constraints.

Chatterjee repeated a Overweight rating on the stock, with a price target of \$210. Thursday morning, Apple was up fractionally to \$175.60, giving it a market capitalization of \$2.87 trillion.

Evercore ISI analyst Amit Daryanani also repeated an Outperform rating on Apple shares, while boosting his target price to \$210, from \$200, a call he made as part of a deep-dive look at the outlook for [the company's prospects in the augmented and virtual reality market](#). There are widespread expectations that Apple will unveil a move into the AR/VR market later this year, and Daryanani thinks the news will serve as a catalyst for Apple shares.

He thinks that the product—glasses, an Oculus-style headset, or both—could have a growth trajectory similar to the Apple Watch business. It could generate \$18.1 billion in sales and 19 cents a share in profits in the fifth year after launch. In a more bullish scenario, he adds, the impact could be \$38 billion in sales and profits of 41 cents a share.

Daryanani thinks the AR/VR glasses will have a few specific uses—gaming, media, and communications—and won't be designed to be worn all day. The devices will run on Apple-designed chips and a new Apple operating system, and will sell for \$750 or more, he predicted.

Write to Eric J. Savitz at eric.savitz@barrons.com

[Apple Again Inches Toward \\$3 Trillion. Up Next Are Earnings and AR Glasses.](#)

A quick guide on **Apple TV+**, how to get it, subscription and shows to watch

531 words

12 January 2022

The Telegraph

ABPTEL

English

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As we switch back to WFH and lean on streaming services to brighten your day, it's time to expand our entertainment horizons. In September 2021, won seven Emmy Awards, a record of sorts for **Apple TV+** within two years of its launch in November 2019. Here's all you need to know about **Apple's** very own streaming service:

If you've just bought an iPhone, iPad or Mac, **Apple TV+** is free for the first three months. That's enough time to dip your toes and decide if you want to switch to paid subscription mode once your free trial expires. You can access it with your **Apple TV** and also other devices like a Fire TV stick, **gaming** consoles (both PlayStation and Xbox), LG and Samsung smart TVs. Of course, you stream all the content to your iPhone or iPad too.

It costs Rs 99/month as a stand-alone subscription post your free trial. You could also opt for an Apple One subscription that costs Rs 195/month and bundles Apple Music, Arcade (for games), iCloud+ (up to 50GB) along with Apple TV+. You can add services (at an additional monthly subscription) like Lionsgate Play or Eros Now to access a wider array of international and Indian language movies.

At a time when we've grown accustomed to extreme levels of on-screen violence, comes as a breath of fresh air. A tale of hope laced with humour couldn't have come at a better time. This feel-good show follows the journey of Ted Lasso (essayed by Jason Sudeikis), an American football coach hired to manage a struggling British soccer team despite having no coaching experience. It won seven Emmys including 'Outstanding Lead Actor in a Comedy Series' for Jason Sudeikis.

Moshe Zonder's spy thriller was originally created for Israeli public channel Kan 11 and became the first Israeli series to win an Emmy ('Best Drama Series' in 2021). This gripping tale follows a Mossad agent on her first mission in the Iranian capital that also happens to be the place of her birth. Mark Eliyahu's soundtrack adds to the drama.

Chris Evans (best known for his role as Captain America in the franchise) plays the lead in this crime drama. This miniseries is adapted from the novel of the same name by William Landay and captures the emotions of a family dealing with the accusation that their 14-year-old son may be a murderer.

Reviews might be mixed on the second season but a high power cast that includes Jennifer Anniston, Steve Carell and Reese Witherspoon lift the first season that captures the cutthroat world of breakfast television with the backdrop of corporate sexual misconduct.

GoT fans might dig this big budget sci-fi saga that is all set to return with its third season. is set in a future where humans don't possess the gift of sight and where society has found new ways to socially interact and survive without vision. This show scores with its visual effects and imaginative screenplay.

Document ABPTEL0020220111ei1c0009j

ECONOMY

Apple now worth three trillion dollars on the stock market

rtr

592 words

5 January 2022

Die Welt translated into English

DWLEN

WETR

11

3

English

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The iPhone now accounts for only half of sales

Apple is making Wall Street history: the stock market value of the smartphone and technology giant rose above the three trillion dollar threshold for the first time on the first trading day of the year. That's more than the UK's annual economic output and barely less than Germany's. Never before has a company been valued so highly on the stock market. With their purchases, investors are betting that the company will be able to build on the success of the iPhone and at the same time tap into new sources of revenue with services such as Apple TV or Apple Music. They are also promising future opportunities in markets such as automated cars and virtual reality.

"The company has a fantastic product lineup and has so much to offer in the coming years," praised Craig Erlam, market analyst at brokerage Oanda. "There have been doubters over the years, especially around innovation, but right now the company seems to meet all the criteria," so jumping over the next four trillion dollar market cap mark is only a matter of time, he said. "It's a fantastic achievement and certainly worth celebrating," said Jake Dollarhide, chief executive of asset manager Longbow Asset Management. "It shows how dominant Apple is in the eyes of the majority of investors. "

A roughly three-percent gain in the stock to a record high of \$182.88 on Monday was enough to lift the California-based iPhone maker's market capitalization to the new milestone. It was only in August 2020 that Apple's stock market value had crossed the two trillion dollar mark. The Cupertino-based company had taken the first trillion mark in 2018. Apple ranks ahead of software company Microsoft on the New York Stock Exchange, which is valued at around \$2.53 trillion on the market.

Alphabet, Amazon and electric car maker Tesla come in at more than \$1 trillion each. Oil company Saudi Aramco is valued at about \$1.9 trillion. "The market rewards companies that are on a strong foundation and have solid balance sheets, and the companies in that range have proven they are strong businesses and not based on speculation," said Scott Wren, market strategist at Wells Fargo Investment Institute.

Apple, like numerous other tech companies, has been among the beneficiaries of the Corona pandemic. Thanks to the trend toward video calling and online shopping, shares gained nearly 250 percent from their low after the March 2020 stock market crash.

In 2007, Steve Jobs unveiled the first iPhone, launching the company's steep rise. Under Tim Cook, who took over the top job from the late Steve Jobs in 2011, the services business expanded massively. That's showing up in the numbers: If Apple still generated almost two-thirds of its revenue with the iPhone in 2018, it was only a good half in the fiscal year 2021.

Experts also see opportunities for the company in the car business. Many investors expect Apple to launch its own car in the coming years. "The icing on the cake that could turn out to be the cake itself is the potential of an electric car," said Rhys Williams, chief strategist at Spouting Rock Asset Management

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Document DWLEN00020220105ei150000a

Apple becomes first U.S. company to hit \$3 trillion market value, then slips

Reuters

626 words

4 January 2022

Financial Express Online

FIEXON

English

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Apple Inc on Monday became the first company to hit a \$3 trillion stock market value, before ending the day a hair below that milestone, as investors bet the iPhone maker will keep launching best-selling products as it explores new markets such as automated cars and **virtual reality**.

On the first day of trading in 2022, the Silicon Valley company's shares hit an intraday record high of \$182.88, putting **Apple's** market value just above \$3 trillion. The stock ended the session up 2.5% at \$182.01, with **Apple's** market capitalization at \$2.99 trillion.

The world's most valuable company reached the milestone as investors bet that consumers will continue to shell out top dollar for iPhones, MacBooks and services such as Apple TV and Apple Music.

"It's a fantastic accomplishment and certainly worthy to be celebrated," said Jake Dollarhide, chief executive officer of Longbow Asset Management in Tulsa, Oklahoma. "It just shows you how far Apple has come, and how dominant it is seen as in the majority of investors' eyes."

Apple shared the \$2 trillion market value club with Microsoft Corp, which is now worth about \$2.5 trillion. Alphabet Inc, Amazon.com Inc and Tesla Inc have market values above \$1 trillion. Saudi Arabian Oil Co is valued at about \$1.9 trillion, according to Refinitiv.

"The market is rewarding companies that have strong fundamentals and balance sheets, and the companies that are hitting these sort of huge market caps have proven they are strong businesses and not speculation," said Scott Wren, senior global market strategist at Wells Fargo Investment Institute.

Apple's shares have climbed around 5,800% since co-founder and former chief executive Steve Jobs unveiled the first iPhone in January 2007, far outpacing the S&P 500's gain of about 230% during the same period.

Under Tim Cook, who in 2011 became chief executive following Jobs' death, Apple has sharply increased its revenue from services like video streaming and music. That helped Apple reduce its reliance on the iPhone to about 52% of total revenue in fiscal 2021 from over 60% in 2018, pleasing investors worried the company relied too much on its top-selling product.

Still, some investors worry Apple is hitting the limits of how much it can expand its user base and how much cash it can squeeze from each user, with no guarantees that future product categories will prove as lucrative as the iPhone.

The rapid embrace of technologies such as 5G, virtual reality and artificial intelligence has also increased the allure of Apple and other Big Tech companies.

In China, the world's largest smartphone market, Apple continued to lead for the second straight month, beating rivals such as Vivo and Xiaomi, recent data from CounterPoint Research showed.

With Tesla now the world's most valuable automaker as Wall Street bets heavily on electric cars, many investors expect Apple to launch its own vehicle within the next few years.

"The icing on the cake, which may turn out to be the cake, is the potential for an EV car," Rhys Williams, chief strategist at Spouting Rock Asset Management said.

Just as Apple's market capitalization hits the \$3 trillion milestone, its share price as a percentage of the Nasdaq 100 index's value is bumping up against a key technical level. In recent prior times, the stock price has risen above such a level and then subsequently declined.

[On the first day of trading in 2022, the Silicon Valley company's shares hit an intraday record high of \\$182.88, putting Apple's market value just above \\$3 trillion. \(File Photo: Reuters\)](#)

Document FIEXON0020220105ei140003p

Extras, IndyBest, Tech, Laptops & Tablets

Fire HD 8 Plus review: Amazon's tablet is hard to beat when it comes to budget

David Phelan

1,578 words

4 January 2022

16:56

Independent Online

INDOP

English

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Whether you're video streaming, cooking, **gaming** or reading, this tablet has you covered

When it comes to tablets, there are two kinds: premium models with glass and aluminium design and with prices to match (these are made by **Apple**) and more affordable tablets. The best of these are very keenly priced and made by Amazon, which tends to sell them at or around cost price, something other manufacturers can't compete with.

Amazon can do this because it sees the Fire tablet range as a way to lure customers into its ecosystem, hoping to sell services such as Amazon Prime or ebooks that can be read on the device.

Amazon has its own, special operating system, Fire OS. It's basically a special version of the Android operating system, but the difference is that Amazon tests every app before it allows it on board. This guarantees the apps will work perfectly, but also means there are far fewer apps available in Fire OS – though the number is still considerable.

Amazon sells its [Fire tablets](#) and most of its Kindle [ebook readers](#) in two versions, with or without ads. If you choose the tablet configured with ads then you see an Amazon advertisement, such as a special offer on an ebook, which appears on the lock screen. They vanish swiftly enough, and are not hugely intrusive.

Buying the tablet without ads on most models, such as the Fire HD 8 Plus, costs £10 more upfront. You can buy it at the cheaper price and get rid of the ads later for the same £10 fee.

Read more:

- * [All the latest updates on UK PS5 stock](#)
- * [Best Nintendo Switch deals and bundles for January 2022](#)
- * [Samsung Galaxy buds pro: Apple's AirPods pro meet their match](#)
- * [Best Ipad deals January 2022: Cheapest prices on Apple's tablets](#)

How we tested

We tested the Fire HD 8 Plus for ease of set-up and use, elegance of design, performance speed, display quality, build quality and battery life. We ran the battery flat, played games, streamed video, typed messages and shouted at Alexa, the built-in voice assistant.

Amazon Fire HD 8 Plus: £109.99, [Amazon.co.uk](#)

* Rating: 7/10

* Display LCD screen: 8 inches, 800 x 1280 pixels, 189ppi

* Dimensions: 202 x 137 x 9.7 mm

* Weight: 355g

* Storage: 32GB/64GB

* Expandable memory: Yes

* Battery life: 12 hours

* Headphone jack: Yes

Design

Like many tablets, this is essentially a small, flat touch-sensitive screen. The only buttons on the Fire HD 8 Plus are the power button and volume rocker on the short edge. All controls are done through the display. The bezel around the screen is not huge, but certainly noticeable. Still, this means you're less likely to brush the touchscreen accidentally.

Where some tablets, such as the [Apple iPad](#), have a Home button on the front, this does not, so there's a better screen-to-body ratio here. On the long edge at the front, there's a front-facing camera peeping out of the bezel. There's also a camera on the back of the tablet, though like all tablets, the flat slab of glass is not ergonomically suited to being a camera replacement. Although, of course, the display is a sumptuous viewfinder for framing your shot. Both cameras are 2-megapixel resolution.

Read more: [8 best compact cameras for the perfect shot every time](#)

The eight-inch display is effective and colourful, although the resolution is no match for that of the iPad. Pixel density on the iPad is 265 pixels per inch (ppi) but here it's 189ppi and the difference is noticeable. It's detailed and immersive, but sometimes graphics lack definition. That said, reading a book on the tablet works well.

Unlike some iPads, this tablet has a 3.5mm headphone jack, so you can listen to what you're watching, or to an audiobook, in privacy.

Storage on the Fire HD 8 Plus is either 32GB or 64GB. Neither is huge but Amazon has included something Apple does not: a memory card slot. This means you can add up to 1TB extra storage if you buy a separate memory card.

The back of the tablet is plastic and while this keeps the device light, it reminds you that this is not a premium tablet (although it's worth bearing in mind with this tablet that it's an absolute snip at the price). The smooth plastic is matte-finish, which makes it less likely to slip from your hands, with one central patch of gloss: the Amazon smile logo is etched into the tablet.

Read more: [10 best tablets from Apple, Android, Windows and more](#)

Another design note: Amazon has switched from microUSB to USB-C for the connector you use to charge the tablet. This is increasingly the connector used on smartphones (apart from iPhones) which makes it more convenient and also promises faster charging. Indeed, compared to the Fire HD 8, the Fire HD 8 Plus can recharge faster by an hour, taking four hours to fully recharge.

This Plus version of the Fire HD 8 has an extra benefit: it's capable of wireless charging so you can place it on any compatible wireless charging pad to boost the battery. Amazon makes its own wireless charging pad for the tablet, which cleverly props it up at a great angle for watching video. If you buy the dock at the same time, it costs an extra £50.

Finally, the HD 8 Plus comes in only one colour, a dark grey shade called Slate, while the less powerful HD 8 is available in four colours: black, plum, twilight blue and white.

Set-up

Switch on the tablet and enter your Amazon ID to set up. It's not quite as quick as it might be because you're immediately presented with special offers, such as free trial subscriptions to Audible, the Amazon-owned audio book company and Kindle Unlimited, which provides access to over one million ebook titles. After your free trial, this costs £7.99 a month. A smaller range of ebook titles is included with an Amazon Prime subscription.

Performance

This tablet comes in two versions, Fire HD 8 and this, the Fire HD 8 Plus. Though many elements are identical, such as the display, size, weight and battery life, there are differences. To start with, the active memory (RAM) is 2GB on the HD 8 but 3GB on the HD 8 Plus which means faster performance, especially when you use Game Mode, which dispels distractions and turns off Alexa, for instance, to optimise performance.

Even so, this doesn't always feel like a super-charged tablet. It takes time when you're switching between books, for instance, and sometimes it takes a little too long when you're switching between titles in Prime Video. Once playback is underway, however, it's an immersive experience.

Battery life is good, beating Apple iPad by two full hours, that's 1-hours against Apple's and several other rivals' 1-hours. Real-world use is often less than this, but it will still easily outlast most usage sessions.

Read more: [The best tablet stands and holders for elevating for viewing experience](#)

The tablet is designed to give easy, seamless access to the world of Amazon. There's a dedicated app called "shop Amazon" where you can buy anything the site sells with a couple of clicks. There's the Prime Video app front-and-centre, though of course similar apps, from Netflix and Disney+ to BritBox are also available with one quick download.

The brilliant Kindle ebook reading app is also here, along with Alexa, the advanced voice assistant. Say Alexa's name, even if you're sitting halfway across the room from the tablet, to check the time, hear a joke, see the weather forecast or launch an app. Place the Fire HD 8 Plus on its dock, or just prop it up, and it makes an excellent recipe device. You can even ask Alexa to turn the page in some cases, to avoid smudging the screen with flour or oil, say.

The verdict: Amazon Fire HD 8 plus review

The [Amazon Fire HD 8 plus](#) is not the most powerful or fastest, or best-looking tablet around. But there's still an awful lot to like, from the seamless interface with all things Amazon to the simple design and excellent battery life. Video streaming is good and for the most part, games are fast and smooth enough to be highly enjoyable. This is a versatile media playback device.

And then there's the price. This tablet costs around half of the cheapest [iPad](#), and since Amazon frequently has special offers, it could cost even less than that. It's around a quarter of the cost of the small Apple tablet, the iPad mini (which costs £479 or more). In terms of good-value tablets, this one is very hard to beat.

Amazon Fire HD 8 Plus

[Buy now](#) £109.99, Amazon.co.uk

Voucher codes

For discounts on games and offers on consoles, try the links below:

* [AO discount codes](#)

* [Very discount codes](#)

Still torn between which tablet to go for? Take a look at our

[Ipad January sales round-up](#)

Document INDOP00020220104ei14005n4

Big tech trends of 2022, gadget updates are on the way

822 words

4 January 2022

The Telegraph

ABPTEL

English

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Tentpole moments don't come every year. For **Apple**, 1984 will be remembered for Macintosh, 1998 for the iMac, 2007 for the iPhone, 2010 for the iPad and 2015 for the **Apple** Watch. One of the company's most ambitious projects may come alive in 2022 — the rumoured device dealing with augmented reality and **virtual reality**. Obsessively secretive, there's an outside chance that **Apple** would announce the headset at its 2022 Worldwide Developers Conference and perhaps make it public in 2023. Going by rumours, it should be a great 3D digital environment for **gaming**, watching video and communicating, with AR functionality to overlay images and information over a view of the real world. If **Apple** can get the product going, it will change the headset game completely. Expect advanced **Apple** chipsets to power the device.

Most phone brands will push wireless charging technology on mid-range phones and may take a cue from Apple to do away with the charging brick that comes inside boxes. Wireless charging is less messy and it will help companies push a new product category, which in turn will bring in profits.

That social media is not suitable for children is a long-drawn conclusion. Expect more efforts by lawmakers around the world to come up with laws to protect children. Instagram has already promised to roll out alternatives to its main algorithmically-driven feed and the platform's head, Adam Mosseri, has told a US Senate subcommittee in December that the company will release more parental controls for teens in 2022, starting in March, with a feature that allows parents to set time limits.

Of course, Samsung will have its big, bold, powerful Galaxy S22 phones but what we are most excited about is the foldable phone. The South Korean company has taken a big lead in the foldable phone segment with its Galaxy Z Fold3 and Galaxy Z Flip3 but they are still expensive. That may no longer be the case. There is a chance that folding phones will become less pricey while other brands will follow Samsung's footsteps. Don't forget, Samsung has taken a big stride when it comes to the software on its folding phone. Is that a phone or a tablet? The folding phone will pick up steam.

Yes, many Indian cities will get a chance to experience 5G and according to a press statement from the department of telecommunications, 13 cities are in luck — Calcutta, Ahmedabad, Bengaluru, Chandigarh, Chennai, Delhi, Gandhinagar, Gurugram, Hyderabad, Jamnagar, Lucknow, Mumbai and Pune. Once there is regulatory clarity, 5G deployment will be quick, which also means, sale of 5G smartphones will be high.

So far we have seen big influencers driving users on social media to brand websites but people are looking for content they can relate to and this content will come from influencers who may have less than 10,000 followers but their content is more relevant. These are the creators who will drive social commerce. Meanwhile, the number of social

e-commerce shoppers will increase.

No doubt Meta will spend a lot on the metaverse and there will be moments of metaverse workplace but 2022 won't look anything like some of the headlines have promised. There will be more of 3D, AR, VR but it will be restricted to a small section of users. We will still be Zoom-ing and we will still be meeting in person (give it a few months). Mark Zuckerberg has to be patient about metaverse.

Investment on new content from streaming companies will increase as the movie-theatre-recovery plot has received a big boost from Spider-Man: No Way Home, which has crossed \$1 billion worldwide at the box office since its December 17 release. Nonetheless, expect big shows on your small screen, like a retelling of Pinocchio starring Tom Hanks, a new installment of the Cars franchise and Obi-Wan Kenobi starring Ewan McGregor. Billions of dollars will be spent on content while the public will continue to wait for something on the lines of what the webslinger has given us.

Don't be surprised if you see an EV roll up to your neighbour's den. The year will see companies launching electric cars to help consumers beat rising fuel costs. No, they won't all be inexpensive but the push will be quite evident, especially from the likes of Tata Motors, BMW and Mercedes-Benz. In fact, many people who are looking for upgrades have their eyes on something like the Tigor EV.

Covid-related delays have pushed a number of big video game titles into 2022 and though there are few confirmed release dates, expect several big launches, like Elden Ring, Pokemon Legends: Arceus, God of War: Ragnarok, Sifu, Redfall, Horizon: Forbidden West, Starfield, Hogwarts: Legacy, Gran Turismo 7, Breath of the Wild 2 and many more.

Document ABPTEL0020220103ei140006u

SmallBiz-Technology

From ecommerce to movies, the potential of Web3 in the digital ecosystem

751 words

2 January 2022

The Economic Times

ECTIM

English

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The year 2021 has been a watershed moment for Web3 and NFT **gaming** in India. We can very well compare this period to 2008 when **Apple** launched the App Store and changed the mobile app landscape, bringing about the mass adoption of Web2. Facebook changing its name to Meta, refocusing its vision and mission to Web3, has had the same impact. It has made Web3, Metaverse, NFT, blockchain **gaming** part of the common vocabulary, exponentially increasing the curiosity about the space. The blockchain use cases have been growing for the last decade, but adoption in 2021 is exponentially higher than the cumulative numbers for the last 10 years. NFT sales in 2021 are estimated to have touched \$12 billion and set to grow exponentially in 2022. NFTs, which have been largely seen as art and collectibles so far, will move to showcasing the power of this technology layer.

From showing the utility in terms of access to events, movie premiers, special sessions, meeting your favorite actors and influencers, to providing economic returns by staking rewards, gaming rewards, NFTs will now start becoming the gateways to the Metaverse. So far NFTs have been a product to be bought using crypto currency, and in 2022 we will start seeing how they will start becoming the digital identity for each of us in Metaverses. Money in real life is part of each of us and in the same manner crypto currency will be a part of our digital identities, which are represented by NFTs. 2022 will be the year when NFTs start becoming more important than crypto currencies. NFT gaming adoption will start setting the expectations for the possibilities of how we interact in the Web3 worlds. So far blockchain gaming is limited to making money and we will slowly now move towards the real aim of the Metaverses, a place of commerce, a place to meet people digitally, a place to be entertained, a place to live digitally. The view regarding Metaverses and NFT gaming has been very myopic so far and ecosystems being created now, will showcase the true vision and power of these digital ecosystems. Users will start to see and interact with businesses where you do all your ecommerce in Web3, see movies / OTT in Web3, interact with each other in Web3, play games in Web3. The use case of NFT based Metaverses is a lot more than what people have understood and this widening of perspective will really propel curiosity, adoption, investment and usage for these digital ecosystems. We are at most 5 years away from Web3 impacting the daily lives of everyone, in the same way as Web2 apps like WhatsApp impact our lives already. The adoption will be faster and reach more areas of what we do. 2022 will see this change becoming real for all the users. Next year will be the year when we will have a number of companies building with the conviction that Web3 and NFT gaming is being built for the masses and we will start to see the creation of the next Google, Facebook and Amazon of Web3. While 2020 has largely been about explaining what Web3 is, using Web3 as a marketing tool, 2022 is the start of the real foundations being built and major differentiations being seen between companies building for the long-term vs players jumping on the bandwagon of the next big thing. A lot of the growth of the ecosystem does hinge on the legal and regulatory landscape, it seems that the Government will not ban crypto currency. The adoption of the same is dependent on how easy or difficult the Government and RBI makes it for businesses to promote themselves, onboard users, enable transactions between ecosystems etc. The adoption throughout the globe hopefully continues to convince the authorities to take positive regulatory stands to promote Web3 adoption rather than stifle growth with licenses. There is no stopping Web3 adoption and what was a cult following is now going to be used by the masses. Governments all around the world will realise that it is better to regulate, promote and welcome the Web3 adoption rather than fight it and let it become a parallel economy. India has all the raw ingredients to become the Web3 champion of the world and we need the authorities to help us take India to the pinnacle. Anshul Rustaggi, Founder, Totality Corp

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Document ECTIM00020220101ei120001p

A 'game changer' device from Apple is imminent. Plus, what to put in your TFSA, and the wrong way to hedge against inflation

1,057 words

20 December 2021

The Globe and Mail (Breaking News)

GMBN

English

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A roundup of investment ideas for active investors

Normally I wouldn't concern myself with a single analyst upgrade of a stock, even if it's Apple Inc. But BofA Securities recent research report is a different story. The analyst, Wamsi Mohan, began the report with, "We expect Apple to introduce an augmented reality/virtual reality headset, either by the end of 2022 or early 2023. We view this technology as a game-changer."

Virtual reality headsets are a vital component of the metaverse, an immersive virtual existence in which consumers can interact, shop, play games, do their banking and eventually almost everything we do now in the real world.

As an investment theme, the metaverse has gotten a lot of attention in 2021 but by all accounts, a fully functioning virtual world is a long way off - a decade at least. That is the main reason I haven't written about it - it's too early to risk investment capital on related stocks.

An Apple VR headset might change that. While there are plenty of reasons to complain about Apple - the devices are expensive, they keep changing the charger attachments, the headphone jack disappeared, just to name three - we can still trust on the company to design sleek, attractive products that provide expansive functionality.

The release of an Apple VR headset would unleash a huge software developer community to begin building the metaverse. Tens of thousands of software engineers now creating apps for Apple operating systems would turn their attention to VR-related programming, accelerating the viability of a virtual world.

Mr. Mohan raised his rating on Apple from "neutral" to "buy", and his 12-month price target from US\$160 to US\$210. The stock is currently about US\$170. I don't, however, intend this report to be a recommendation to buy the stock, at least not yet. I'm just reporting that the metaverse, with all its extensive socioeconomic and investment implications, may be upon us a lot sooner than we previously thought.

-- Scott Barlow, Globe and Mail market strategist

This is the Globe Investor newsletter, published three times each week. If someone has forwarded this e-mail newsletter to you or you're reading this on the web, you can sign up for the newsletter and others on our newsletter signup page.

Stocks to ponder

Suncor Energy Inc. (SU-T) In recent weeks the share price has come under significant pressure with the rapid spread of Omicron and fear of slowing global economic activity. This continued weakness in the share price may soon represent a buying opportunity, Jennifer Dowty says. Consider that the stock has 16 buy recommendations and an anticipated average one-year total return, including the 5.6-per-cent dividend yield, of 40 per cent.

The Rundown

As inflation heats up, this is the wrong way to hedge against it

Inflation is running at its hottest pace in decades and investors are scurrying for shelter. They should be careful where they turn. The problem with most inflation hedges is that they don't really hedge. Supposed havens often have risks of their own. Ian McGugan explains.

Also see: After inflation, a bond supply shock may be next for markets

Dividend ETFs for investors who want max yield

A reader recently asked Rob Carrick about dividend ETFs that are based on shares with the highest dividend payouts. Here's what he found. And if you're more into dividend growth rather than just maximizing yields, check out John Heinzl's review of how his model portfolio performed in 2021.

Narrowing market breadth may be worrying signal for stocks

Investors are scrutinizing the stock market's narrowing breadth and other signs of ebbing risk appetite, as markets digest a hawkish pivot from the Federal Reserve, soaring inflation and concern over a fresh wave of COVID-19 cases. Only 31 per cent of stocks in the tech-heavy Nasdaq are trading above their 200-day simple moving average despite the index's 18 per cent year-to-date gain, according to Refinitiv data Friday, the lowest level in at least a year. Saqib Iqbal Ahmed of Reuters reports.

Others (for subscribers)

Desjardins Securities reveals its top TSX stock picks for the new year

The most oversold and overbought stocks on the TSX

Monday's analyst upgrades and downgrades

Monday's Insider Report: Chair invests over \$3.7-million in this stock with a forecast return exceeding 60%

Globe Advisor

Globe Advisor's Best of 2021: Why investment funds still matter

Are you a financial advisor? Register for Globe Advisor (www.globeadvisor.com) for free daily and weekly newsletters, in-depth industry coverage and analysis, and access to ProStation - a powerful tool to help you manage your clients' portfolios.

Ask Globe Investor

Question: What should I put in my TFSA?

Answer: I'll tell you one thing I wouldn't hold in my TFSA: a lot of cash. Cash earns next to no interest these days, so stuffing it into a TFSA defeats the account's purpose, which is to avoid taxes on investment income. In general, you're better off using your TFSA room for stocks, exchange-traded funds, mutual funds or fixed-income securities with higher yields so you can eliminate tax on the interest, dividends and capital gains. Now, if you have plenty of available TFSA room and don't have to choose what goes in and what stays out, then by all means keep your low-yielding cash in there, too.

--John Heinzl

What's up in the days ahead

Economist David Rosenberg, and BMO head market strategist Brian Belski, will provide their outlook for what the year ahead may bring.

[Click here](#) to see the Globe Investor earnings and economic news calendar.

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Compiled by Globe Investor Staff

Follow this link to view this story on globeandmail.com: A 'game changer' device from Apple is imminent. Plus, what to put in your TFSA, and the wrong way to hedge against inflation

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Tech, Media & Telecom Roundup: Market Talk

982 words

17 December 2021

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Dow Jones Institutional News

DJDN

English

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The latest Market Talks covering Technology, Media and Telecom. Published exclusively on Dow Jones Newswires at 4:20 ET, 12:20 ET and 16:50 ET.

0540 GMT - GoerTek's strong tech and R&D capabilities could help position the company to capture business opportunities in the growing augmented- and **virtual-reality** sectors, Daiwa Capital says. The wearable-device maker has a strong client base including **Apple**, Samsung and Huawei, and has been the sole assembler for Meta Oculus VR headsets since 2016-17. Daiwa expects GoerTek to deliver strong earnings growth of 33%-41% for 2022-2023, supported by new projects and market-share gains driven by the rapidly growing AR/VR markets. The investment bank initiates coverage on the stock with a buy rating and a CNY67 target price. Shares are 2.0% lower at CNY56.25. (justina.lee@wsj.com)

0018 GMT - UBS wants to see call-recording provider Dubber arrest what looks like a slowdown in organic growth as it initiates coverage of the stock with a neutral rating. The investment bank forecasts annual recurring revenue to increase at an average rate of 47% until hitting A\$125 million in Dubber's 2024 fiscal year. Yet it would prefer to see a consistent trajectory of accelerating subscriber growth before turning more positive on the stock. UBS also notes uncertainty over M&A following July's capital raise and with Dubber holding A\$126 million in cash. It places a A\$3.30 target price on the stock, which is 8.7% lower at A\$2.83 in tandem with a sell-off of Australian tech stocks. (stuart.condie@wsj.com; @StuartLCondie)

2110 GMT - Canadian stocks finish with losses Thursday as the benchmark S&P/TSX Composite Index falls 0.1% to 20739 and the blue-chip S&P/TSX 60 Index slips 0.2% at 1260. During the session, gains in natural resources stocks were outweighed by tech and tech services declines. Shares in GoGold Resources close 6.7% higher at C\$3.18 after the company said its Parral operations in Mexico contributed to its stronger performance in fiscal 2021. (adriano.marchese@wsj.com)

1853 GMT - The Senate confirmed Rostin Behnam as chairman of the Commodity Futures Trading Commission, an agency he has led in an acting capacity since President Biden took office. Senators approved Behnam's nomination in a voice vote Wednesday after he earned bipartisan support from the Agriculture Committee in early November. In his confirmation hearing this fall, Behnam said he plans to continue aggressively policing cryptocurrencies and suggested Congress consider giving the CFTC authority to regulate cash markets for bitcoin and ether, rather than just derivatives. (paul.kiernan@wsj.com)

1830 GMT - Intelsat SA announces that it reached a settlement with a group of convertible noteholders who had previously refused to support the company's chapter 11 plan of reorganization. The dissenting creditors, which include Cyrus Capital Partners and Anchorage Capital Group, agreed to withdraw their objections and they will receive an additional \$25M in cash recoveries as part of the settlement, on top of the \$39M slated for distribution. Previously, the parent-company bondholders had alleged that Intelsat's directors chose a chapter 11 plan that unfairly rewarded a competing creditor group. Judge Keith L. Phillips of the Eastern District of Virginia said on Thursday he would approve the company's proposed reorganization plan following the withdrawal of the creditors' objections, paving the way to a non-contested exit from bankruptcy for the satellite company. (alexander.saeedy@wsj.com; @ajsaeedy)

1638 GMT - First-time homebuyers are now increasingly looking for flex space such as finished basements, guest rooms and guest houses, a Realtor.com survey shows. These home shoppers have also increased their budgets since the spring, and are more willing to bid over asking price and use other tactics to get ahead of the competition. The survey found that while more than a quarter of hopeful first-time homebuyers were unsuccessful at purchasing a home in 2021, 72% are aiming to try again in 2022. And after months of trying, home shoppers have a better understanding of what it will take to write a winning offer, including putting more than 20% down and making an offer quickly. (chris.wack@wsj.com)

1542 GMT - Morgan Stanley says AT&T's recent selloff, which sent shares to two-decade lows, reflects "an overly negative outlook" that ignores this year's wireless revenue growth. The investment bank also flags upside from the pending WarnerMedia-Discovery merger, which will give AT&T shareholders a stake the

venture. "Part of the challenge with investing in AT&T right now is that there are a lot of unanswered questions on deal structure, timeline, etc. which should all become clearer in coming months." AT&T will report 4Q results Jan. 26, and other news from tax treatment to 5G auction results could come sooner. Morgan Stanley lifts its recommendation on the stock to overweight from equal-weight and lowers its price target to \$28, down from its old \$32 level. AT&T gains 6.6% to \$23.64. (andrew.fitzgerald@wsj.com; @drewfitzgerald)

0923 GMT - Telecom Italia's latest profit warning--the third since the summer--is "obviously very disappointing" and raises doubts on its operations, financial communication and forecasting skills, Bryan Garnier says. "However, we do not exclude that the announcement could also be driven by tactical purposes from the new management," the European investment bank says. Lower revenues from wireline, partly due to the performance of its football partnership with streaming service DAZN, is mainly to blame for the lowered outlook. The Italian telecommunications company trades 0.6% lower at EUR0.44. (olivia.bugault@wsj.com)

(END) Dow Jones Newswires

December 17, 2021 04:20 ET (09:20 GMT)

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business

Currys: Lust for gadgets transcends borders

William Kay

1,039 words

16 December 2021

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TIMEUK

English

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If a high-tech electrical company came up with an international retail strategy based only on the UK, Nordic countries and Greece, you could be forgiven for thinking the board had been playing too many obscure **virtual-reality** games. But, for historical reasons, that is the mixture Alex Baldock has inherited as chief executive of Currys.

A post facto justification of that eclectic spread is it gives the group more clout when dealing with the likes of **Apple** and Samsung, letting Currys place higher orders. But that has been the least of Baldock's considerations as he has grappled with Brexit, the pandemic and folding the old Dixons and Carphone Warehouse brands into Currys and its foreign counterparts, Elkjop and Kotsovolos.

He has gone for the moral high ground. "Our vision, to help everyone enjoy amazing technology, has a powerful social purpose at its heart," he says. "We believe in the power of technology to improve lives and help people stay connected, productive, healthy and entertained."

The biggest effect of that on the cold, hard bottom line is to increase what Baldock calls customer "stickiness". Some retailers think it is enough to harvest customers' email addresses but he aims for credit, warranties, repairs, recycling, upgrades and face-to-face advice.

Lockdowns and working from home has introduced the public to the whole range of Currys products, from smartphones to 79in televisions, freezers, cookers and coffeemakers. Four out of five UK households contain a product bought from Currys and ongoing WFH guidance suggests this kit is going to play a big role in our lives for years to come. And, while many analysts say phones have gone ex-growth, Baldock sees them as a gateway. "I don't think they need to be a low-growth category," he said. "A smartphone is still the most important bit of tech in most people's lives."

The stock market was decidedly unimpressed with yesterday's half-year results, possibly because it is only six weeks since the group's interim trading update and investors were spooked by Baldock's reference to "a softer market in the Christmas run-up". The shares have fallen from 140p on November 11 to 111p at one stage yesterday. But the bigger picture is the plunge from 500p since December 2015 in the wake of the Dixons-Carphone merger.

At £4.78 billion, half-year revenue was flat year-on-year but up 15 per cent on a like-for-like basis compared with the May-October period in 2019. Pretax profit was unchanged from a year ago at £48 million but, thanks to a lower tax charge, earnings per share rose from 2.8p to 3.7p. Free cash flow was £185 million, down from £499 million this time last year but a big improvement on 2019's £77 million.

Baldock said: "We have had a strong first half. We grew colleague engagement and customer satisfaction, gained market share and stabilised gross margins in the UK." A £75 million share buyback is planned for next month, along with a penny-a-share interim dividend. And there is more to come, through £300 million of cost savings.

Retail is tricky to transplant abroad, particularly in food and clothing, but the universal desire for gadgets transcends that. The Nordic operation fits well, accounting for 41 per cent of group revenue as Scandinavians spend their long nights gazing at screens. Greece is an outlier in more ways than one with only 6 per cent of the business. At least it makes money.

Logic points to Currys moving into more foreign territories. Baldock has enough to keep him busy for now, but he admits to dreaming about "spreading our magic dust on a broader range of countries".

Advice

Buy

Why

Plenty of potential to be squeezed from the existing businesses, and the prospect of eventual foreign expansion

Hollywood Bowl

Any business with a gross profit margin of 85.6 per cent is basically a glorified funnel that shifts cash from customers to shareholders. In the case of Hollywood Bowl, but for the little matter of rolling balls at wooden skittles, or stroking golf balls into holes, the money could go straight from one set of pockets to the other.

The task of coaxing the cash out of punters' wallets has proved untaxing and untroubled by too much competition for Hollywood Bowl, which meanders on in its own sweet way without encountering too many hurdles, recently adding Puttstars indoor putting greens to its traditional ten-pin bowling alleys.

For the year ended September 30, the pandemic depressed revenues from £79.5 million to £71.98 million, taking gross profit down from £67.9 million to £61.6 million. At the operating level, profits slipped from £9.9 million to £9.6 million — still a healthy margin of 13.3 per cent. More dramatically, cash went from a net outflow of £8.7 million to a £29.9 million inflow.

The chief executive, Stephen Burns, said: "I am delighted about the excellent performance, record activity for both a single day and an entire month, exceeding our 2019 trading levels on a like-for-like basis and delivering a profit for the year. Notwithstanding the Covid uncertainties, we remain confident in strong, ongoing demand for fun, safe and family-friendly experiences."

The removal of pandemic curbs led to a burst of bowling activity in August, producing a record £20.1 million in revenue — 50 per cent more than in August 2019. And the company is relatively free of the hospitality industry's painful dependence on pre-Christmas trade; no single month accounts for more than a tenth of revenue.

Longer term, the early success of Puttstars suggests that Hollywood has the scope and skills to broaden into other types of innocent amusement. The only real risk is that putting and bowling might lose their allure for families.

But while the fun lasts, the shares are as close as can be to fixed-interest stock. Peel Hunt reckons they sell at 15.7 times earnings for the current year, with a prospective return to dividends.

Advice

Buy

Why

A solid, cash-generative, income-producing share

Document TIMEUK0020211216ehcg000bs

FINANCIAL REVIEW

Market Wrap

Apple nears \$US3trn valuation on bullish target

Tom Richardson

524 words

14 December 2021

The Australian Financial Review

AFNR

First

30

English

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Technology

Apple shares raced to a record high on Friday and could top a \$US3 trillion (\$4.2 trillion) valuation this week as investors bet it can deliver new products in the **virtual reality** and electric vehicle space.

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Morgan Stanley analyst Katy Huberty valued the stock at \$US200 and said Apple's track record of success in developing new products had driven the 500 per cent stock price rise over the past five years, as much as consistently strong iPhone sales, in a research note dated December 7.

The group's wearables business spanning Apple Watch, AirPods, Beats headphones and other accessories has grown from almost nothing to a \$US38 billion revenue business (the size of a Fortune 120 company) since 2014, according to Ms Hubert. Meanwhile, the services and subscriptions business under Apple TV, Pay and Music has grown to nearly \$US70 billion in annual revenue and doubled in size over four years.

Management's success in developing new products helped Apple reach a \$US1 trillion valuation in August 2018, before taking just two years to double its valuation to \$US2 trillion by August 2020, with \$US3 trillion now in sight.

In total, Apple now has 1.65 billion active devices globally across its iPhone, Mac, iPad and wearables businesses. The tech giant's innovation and dominance means it is 64 per cent more valuable than every company listed on the Australian stock exchange at a combined \$2.53 trillion market capitalisation.

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"While AR/VR technology has captured greater investor attention in recent weeks following Facebook's rebranding, we would note that Apple has been methodically developing AR/VR technology for years," Ms Hubert said. "Additionally, in conversations with venture-backed AR/VR companies, the consensus view is that the real catalyst for mass market AR/VR adoption will come when Apple enters the market. Apple brings 250,000 points of distribution, in-house semiconductor and component development, supply chain scale, an ecosystem of developer tools and application marketplace."

The broker said 6 per cent of Apple's annual revenue now came from products that did not exist five years ago, and that the success of virtual reality products, among others, could add \$US29 billion to financial 2026 revenue on that basis.

In total, it assigned \$US301 billion in enterprise value to new products to reach an implied enterprise value of \$US3.19 trillion at \$US200 a share.

Risks to the downside include component shortages hurting hardware sales, competition from the likes of Samsung, and increased regulation around App Store sales hurting profit margins, the broker said.

The author owns shares in Apple.

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Daily

Apple Stock Gets an Upgrade on Potential for AR/VR Headsets

By Eric J. Savitz

573 words

14 December 2021

23:03

Barron's Online

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English

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Apple received some new love from Wall Street as analysts continue to ratchet up their expectations for the stock to factor in the potential for the company's [so-far unannounced entry](#) into the market for augmented- and **virtual-reality** hardware.

[As noted in the most recent Barron's Tech Trader column](#), analysts have begun revising their target prices and earnings models for **Apple** (ticker: AAPL) shares to reflect the anticipated debut of the company's AR/VR headset, or glasses, or whatever the product turns out to be, about a year from now. On Monday, J.P. Morgan analyst Samik Chatterjee raised his target for the stock price to \$210, from \$180. That compares with the share price of a bit more than \$174 Tuesday morning.

Chatterjee declared Apple stock his top pick for 2022, joining Wedbush analyst Dan Ives, who recently said the same. Evercore ISI analyst Amit Daryanani on Tuesday said the shares are among his favorite choices for 2022.

BofA Global Research analyst Wamsi Mohan raised his rating on Apple shares to Buy from Neutral, while boosting his target on the stock to \$210, from \$160. He cited the expected arrival of an AR/VR headset in making the call.

"We view this technology as a game-changer as it will enable many new applications which will require high performance hardware and higher access speeds," he wrote in a Tuesday research note.

While some analysts worry that AR/VR glasses could eventually replace the iPhone as a primary connectivity device, Mohan said that he thinks iPhone sales in fiscal 2023 sales will be better than some expect. Augmented reality could become "the killer app" for 5G devices, while the AR/VR category offers new opportunities for Apple's services business, he said.

Mohan thinks Apple will continue to aggressively return capital to holders, and also noted that many institutional investors remain underweight Apple relative to the S&P 500. They could boost their positions ahead of the AR/VR launch next year, he said.

Daryanani, the Evercore ISI analyst who named Apple as a top pick for 2022, repeated his Outperform rating and boosted his target price on the stock to \$200, from \$180. In a research note, Daryanani said he thinks Apple can sustain growth in earnings per share in the mid teens, "driven by a host of secular levers," in particular growth in both wearables and services. He said Apple's services arm can reach \$100 billion in revenue by fiscal 2025, and that he sees a path for wearables to become a \$75 billion business.

Daryanani's other top picks for next year include the connector company Amphenol (APH), networking companies Arista Networks (ANET), Cisco Systems (CSCO) and Ciena (CIEN), and the IT services provider CDW (CDW).

After a recent surge of nearly 20% that took the company's market capitalization close to \$3 trillion—a milestone no other public company has ever reached—Apple shares have succumbed to some modest profit taking. Tuesday morning, the stock was down 0.7%, on a day when the Nasdaq Composite was off 1.2%. At \$174.38, the stock is less than a 5% rally away from the \$3 trillion mark.

Write to Eric J. Savitz at eric.savitz@barrons.com

[Apple Stock Gets an Upgrade on Potential for AR/VR Headsets](#)

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Apple's iPhone Successor Comes Into Focus

By Christopher Mims

1,777 words

14 December 2021

10:41

Dow Jones Newswires Chinese (English)

RTNW

English

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If you thought the hullabaloo about Facebook, **virtual reality**, and the metaverse was a lot, wait till next year. **Apple** is expected to unveil in 2022 something at least as attention getting: a head-mounted device that has the potential to be the next biggest thing after the iPhone.

Meta Platforms, as Facebook's parent is now known, is focused on an alternative to our current reality, one we can disappear into on our couch. **Apple** is raising the stakes with what analysts say are plans for a headset or smart glasses that will offer access to a layer of information, objects and data spread across our view of the real world like so much digital pixie dust -- a so-called augmented reality, or AR. While the company hasn't disclosed its plans, analysts and other industry insiders expect **Apple's** first AR device could be announced by the end of 2022.

Chief Executive Tim Cook has been talking about augmented reality for so long that it's easy to forget just how big it could be for Apple, and for the entire tech industry. Depending on which expert you listen to, AR is either destined to be one more way we access the internet, or will subsume our experience of it completely and be an essential gateway to the metaverse that so many companies claim they are now building. In either case, the impact of an AR headset and the market for it could be huge, and several factors -- from its growing prowess developing microchips to its army of loyal app developers -- suggest Apple is uniquely positioned to build a moat around its AR business rather quickly, just as it did with the iPhone.

Of course, other companies also have released or will soon reveal a surprising variety of similar, face-based computers. Microsoft has perhaps the most successful AR device to date with its HoloLens 2 headset, though it weighs a hefty 1.25 pounds, starts at \$3,500, and is entirely focused on business customers. The company does have the consumer in mind, at least in the future. Eventually, headsets from Microsoft "will be more immersive, more affordable and come in more socially acceptable form factors," says Alex Kipman, an engineer who works on mixed reality at Microsoft.

These headsets are part of a broader phenomenon collectively known as "spatial computing," and it has the potential to be the next biggest thing after the smartphone. The concept encompasses a range of face-dwelling computers: virtual reality-only headsets like those sold by Meta's Oculus brand that fully immerse people in virtualdom; augmented reality and "mixed reality" headsets that add cameras and can pass through to the wearer a view of the outside world; and lightweight "smart glasses" that look and feel more or less like eyeglasses but can project information into a person's view -- something like a more-evolved version of the original (and failed) Google Glass.

Apple, though, will bring some unique advantages to its alternate-reality play that could quickly vault it ahead of those who were earlier to market.

First, any Apple headset is almost certain to be built around Apple's own homemade chips, which are now, by some benchmarks, unmatched in performance for mobile devices by the all-important measure of performance per watt -- basically, how much computing power you can get out of a battery charge.

This is a huge advantage in overcoming the physical limitations that have constrained other AR devices like Microsoft's bulky and not-exactly-stylish HoloLens or a similarly bulky one from a startup called Magic Leap, says Mike Boland, an analyst at ARtillery Intelligence, a research firm specializing in spatial computing.

Also, Apple's existing product ecosystem gives some momentum to its bet that augmented reality has the potential to be more accessible than virtual reality to more people. AR devices could display information like navigation guidance, message alerts, and even video chats on transparent lenses in a way that makes them useful -- and also, arguably, somewhat creepy. Apple has become the "computing where you are" company with its mobile devices and wearables, and has shown that this is the way most people prefer to interact with devices, most of the time, rather than disappearing into the fully-immersive VR technology Meta has championed.

At present, the ability to overlay the world with a heads-up-display that puts driving directions, messages, video chats and everything else we do on our phones directly into our field of view might not sound that compelling.

The market for VR headsets is still relatively small -- in the range of the low tens of millions of units sold annually -- but the market for eyeglasses is \$150 billion a year, says Mr. Boland. If anyone can pull off reasonably sleek "smart glasses" that achieve enough of the functionality of a HoloLens or a headset from Magic Leap, it's Apple, he adds.

Smaller companies with nowhere near Apple's tech resources or market clout have made headway on similar projects that demonstrate the concept. Vuzix, an AR headset company founded in 1997, recently unveiled its latest, sleekest smart glasses, the Vuzix Shield. They are still bulky compared with even the chunkiest of eyeglasses -- battery, computer, cameras and the display projector must all be crammed into the temples of the glasses -- but they are designed to be worn all day, and are based on Vuzix's decades of experience creating AR headsets for businesses and the Department of Defense, says CEO Paul Travers.

Snapchat parent Snap earlier this year added AR functions to the latest version of its Spectacles smart-glasses, which are so far available only for developers. Niantic, the Google spinout known for its hit AR game "Pokémon Go," is also working on a pair of lightweight smart glasses. Niantic's first smart glasses will be a "full AR device," capable of creating the illusion that fully three-dimensional objects inhabit the world around the user, says CEO John Hanke.

Accomplishing full AR in a lightweight, easily worn device is a technical challenge that has defeated all comers, but this won't be the case forever, says Hugo Swart, vice president of XR and the metaverse at Qualcomm. ("XR" is an industry term that encompasses augmented, mixed and virtual reality.) In 10 years, we will be close to the "holy grail" of augmented-reality glasses that are both light enough for prolonged and everyday use, and as capable as today's bulky AR and VR headsets, he adds.

Mr. Swart has a unique vantage point on the industry, since he oversees the division at Qualcomm that provides the microchips that power devices including Meta's latest Oculus Quest 2 headset, Vuzix's Shield glasses, Microsoft's HoloLens 2, and Niantic's forthcoming device, among others.

Mr. Swart thinks one solution for AR is to have a lot of the required computing happen on a device everyone already has -- their smartphone -- and connecting with the headset via the new Wi-Fi 6e standard. That could enable fast, high-bandwidth connection between the two that allows the phone to do most of the processing work.

Mr. Hanke says Niantic and other companies are working on such solutions, in order to bring full AR to a glasses-like form factor. "Doing this means a fair amount of mass and heat dissipation that doesn't have to go on your head anymore," he adds.

That approach also would play to Apple's strengths, given the iPhone's popularity. And, if Apple does opt to offload much of the necessary processing to the iPhone to keep its smart glasses svelte, it could further entrench the iPhone as the dominant mobile device in many markets, says Mr. Boland, the analyst. As growth in demand for smartphones slows, Apple's strategy has been to sell more and more accessories, like watches and headphones, and adding smart glasses to that growing list just makes sense, he adds.

Whether or not people will actually adopt smart glasses, whatever their form factor, is a design and cultural challenge. "People just hate stuff on their face, frankly," says Mr. Travers of Vuzix. As the world saw with the backlash against the original Google Glass, and the mixed feelings reviewers have expressed about more recent efforts, like Meta's collaboration with Ray-Ban to put cameras into sunglasses, asking people to put a computer on their face is a far cry from asking them to carry a smooth, thin slab of glass and metal that can disappear into a purse or pocket.

This is where another of Apple's advantages may have an impact: Its ability to market its devices -- and for those devices to market themselves. The company is expert at creating hardware that inspires FOMO -- an acronym for the "fear of missing out." And it has a vast army of developers that create the software and services that drive that feeling.

If Meta succeeds at building a software-based metaverse, but Apple's headsets become the best and most popular way to access it, it wouldn't be the first time that Apple's devices were a primary way that users access Facebook, WhatsApp and Instagram, all of which are of course massively popular on the iPhone.

Some AR proponents think that the FOMO-inducing killer app for spatial computing could be gaming. But, as with the smartphone, whose killer app proved to be many apps, all made possible by mobile internet access, there may be no single driver of adoption for smart glasses. "I think it's going to be about making all the things you do on your phone today easier, less intrusive, and more natural to access, by presenting them contextually as you move through the world," says Mr. Hanke.

There remain a lot of uncertainties about AR. It's possible that Apple's headset sales will never be much bigger than its watch business -- a sizable business by any objective standard, but a fraction of the total revenue of what is intermittently the world's most valuable company.

Apple's iPhone Successor Comes Into Focus -2-

But it's also possible that augmented reality and the broader phenomenon of spatial computing is, as some would have it, the natural successor to the PC and the smartphone. In which case the battle between Facebook, Apple, Google and hundreds of other companies over who will provide which parts of that future is just getting started.

Write to Christopher Mims at christopher.mims@wsj.com

(END) Dow Jones Newswires

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FINANCIAL REVIEW

Apple nears \$US3trn valuation on bullish analyst note

Tom Richardson

526 words

13 December 2021

12:26

AFR Online

AFNROL

English

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New products eyed

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The author owns shares in Apple.

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TheNation

Talk of RBA-backed digital currency is on the money, says Lowe

PATRICK COMMINS, Economics Correspondent

541 words

10 December 2021

The Australian

AUSTLN

Australian

2

English

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Reserve Bank governor Philip Lowe says a compelling case for a central bank-backed digital currency “could emerge quite quickly” if more Australians were to use **digital wallets** to pay with cryptocurrencies, as he welcomed the government’s planned regulatory overhaul of the payments systems. The RBA has previously been sceptical about the need for a retail central bank digital currency (CBDC) but in a speech to the Australian Payments Network, Dr Lowe provided the clearest signal yet that the case for an “eAUD” was growing.

Dr Lowe said **digital wallets**, such as **Apple** Pay, Google Pay and Samsung Pay, were replacing physical wallets at a great pace and would only grow in popularity.

“It is also likely that these digital wallets will contain more than just digital representations of the cards that are in our physical wallets,” he said.

“In particular, I expect that they are likely to provide access to new token or account-based digital forms of money. This could allow day-to-day payments to be made by moving tokens around rather than moving banknotes or value between bank accounts.

“One possibility is that the tokens are issued, and backed, by the RBA, just as we issue and back Australian dollar banknotes. This would be a form of retail central bank digital currency – or an eAUD.” Treasury this week announced it would partner with the Reserve Bank to investigate the viability of a retail CBDC, with a consultative process over the second half of 2022.

Josh Frydenberg on Wednesday said Australia would be “one of the first globally to take such action” but Dr Lowe said he believed it would be “quite a few years before we see anything more than small-scale proof of concepts”.

He said there were several financial stability issues to consider, such as whether a CBDC would offer interest, in which case it would compete with bank deposits and “could change the whole structure of the banking system”.

Still, Dr Lowe said, “with so much change taking place, regulators and the payments legislation cannot stand still”.

“The digital economy is very important to Australia’s future and we need a regulatory system that encourages innovation and ensures the system is safe and stable,” he said.

Dr Lowe said it was possible that so-called “stablecoins” – a form of cryptocurrency backed by government-backed money and so offering a more stable value – could become more prevalent.

“If this is how the system develops, it will be important that these tokens are backed by high-quality assets and that they meet high standards for safety and security.” Dr Lowe repeated the bank’s position that other cryptocurrencies, which are not backed by any traditional assets and suffer regular and wild swings in value, would not be fit for purpose as an everyday form of payment. “I remain sceptical that we will head in this direction for general purpose payments. It is likely that the asset used for the settlement of most transactions in the economy will remain some form of secure fiat currency with a stable value, rather than cryptocurrency with a volatile price.”

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Apple's iPhone Successor Comes Into Focus

By Christopher Mims

1,788 words

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If you thought the hullabaloo about Facebook, **virtual reality**, and the metaverse was a lot, wait till next year. **Apple** is expected to unveil in 2022 something at least as attention getting: a head-mounted device that has the potential to be the next biggest thing after the iPhone.

Meta Platforms, as Facebook's parent is now known, is focused on an alternative to our current reality, one we can disappear into on our couch. **Apple** is raising the stakes with what analysts say are plans for a headset or smart glasses that will offer access to a layer of information, objects and data spread across our view of the real world like so much digital pixie dust -- a so-called augmented reality, or AR. While the company hasn't disclosed its plans, analysts and other industry insiders expect **Apple's** first AR device could be announced by the end of 2022.

Chief Executive Tim Cook has been talking about augmented reality for so long that it's easy to forget just how big it could be for Apple, and for the entire tech industry. Depending on which expert you listen to, AR is either destined to be one more way we access the internet, or will subsume our experience of it completely and be an essential gateway to the metaverse that so many companies claim they are now building. In either case, the impact of an AR headset and the market for it could be huge, and several factors -- from its growing prowess developing microchips to its army of loyal app developers -- suggest Apple is uniquely positioned to build a moat around its AR business rather quickly, just as it did with the iPhone.

Of course, other companies also have released or will soon reveal a surprising variety of similar, face-based computers. Microsoft has perhaps the most successful AR device to date with its HoloLens 2 headset, though it weighs a hefty 1.25 pounds, starts at \$3,500, and is entirely focused on business customers. The company does have the consumer in mind, at least in the future. Eventually, headsets from Microsoft "will be more immersive, more affordable and come in more socially acceptable form factors," says Alex Kipman, an engineer who works on mixed reality at Microsoft.

These headsets are part of a broader phenomenon collectively known as "spatial computing," and it has the potential to be the next biggest thing after the smartphone. The concept encompasses a range of face-dwelling computers: virtual reality-only headsets like those sold by Meta's Oculus brand that fully immerse people in virtualdom; augmented reality and "mixed reality" headsets that add cameras and can pass through to the wearer a view of the outside world; and lightweight "smart glasses" that look and feel more or less like eyeglasses but can project information into a person's view -- something like a more-evolved version of the original (and failed) Google Glass.

Apple, though, will bring some unique advantages to its alternate-reality play that could quickly vault it ahead of those who were earlier to market.

First, any Apple headset is almost certain to be built around Apple's own homemade chips, which are now, by some benchmarks, unmatched in performance for mobile devices by the all-important measure of performance per watt -- basically, how much computing power you can get out of a battery charge.

This is a huge advantage in overcoming the physical limitations that have constrained other AR devices like Microsoft's bulky and not-exactly-stylish HoloLens or a similarly bulky one from a startup called Magic Leap, says Mike Boland, an analyst at ARtillery Intelligence, a research firm specializing in spatial computing.

Also, Apple's existing product ecosystem gives some momentum to its bet that augmented reality has the potential to be more accessible than virtual reality to more people. AR devices could display information like navigation guidance, message alerts, and even video chats on transparent lenses in a way that makes them useful -- and also, arguably, somewhat creepy. Apple has become the "computing where you are" company with its mobile devices and wearables, and has shown that this is the way most people prefer to interact with devices, most of the time, rather than disappearing into the fully-immersive VR technology Meta has championed.

At present, the ability to overlay the world with a heads-up-display that puts driving directions, messages, video chats and everything else we do on our phones directly into our field of view might not sound that compelling.

The market for VR headsets is still relatively small -- in the range of the low tens of millions of units sold annually -- but the market for eyeglasses is \$150 billion a year, says Mr. Boland. If anyone can pull off reasonably sleek "smart glasses" that achieve enough of the functionality of a HoloLens or a headset from Magic Leap, it's Apple, he adds.

Smaller companies with nowhere near Apple's tech resources or market clout have made headway on similar projects that demonstrate the concept. Vuzix, an AR headset company founded in 1997, recently unveiled its latest, sleekest smart glasses, the Vuzix Shield. They are still bulky compared with even the chunkiest of eyeglasses -- battery, computer, cameras and the display projector must all be crammed into the temples of the glasses -- but they are designed to be worn all day, and are based on Vuzix's decades of experience creating AR headsets for businesses and the Department of Defense, says CEO Paul Travers.

Snapchat parent Snap earlier this year added AR functions to the latest version of its Spectacles smart-glasses, which are so far available only for developers. Niantic, the Google spinout known for its hit AR game "Pokémon Go," is also working on a pair of lightweight smart glasses. Niantic's first smart glasses will be a "full AR device," capable of creating the illusion that fully three-dimensional objects inhabit the world around the user, says CEO John Hanke.

Accomplishing full AR in a lightweight, easily worn device is a technical challenge that has defeated all comers, but this won't be the case forever, says Hugo Swart, vice president of XR and the metaverse at Qualcomm. ("XR" is an industry term that encompasses augmented, mixed and virtual reality.) In 10 years, we will be close to the "holy grail" of augmented-reality glasses that are both light enough for prolonged and everyday use, and as capable as today's bulky AR and VR headsets, he adds.

Mr. Swart has a unique vantage point on the industry, since he oversees the division at Qualcomm that provides the microchips that power devices including Meta's latest Oculus Quest 2 headset, Vuzix's Shield glasses, Microsoft's HoloLens 2, and Niantic's forthcoming device, among others.

Mr. Swart thinks one solution for AR is to have a lot of the required computing happen on a device everyone already has -- their smartphone -- and connecting with the headset via the new Wi-Fi 6e standard. That could enable fast, high-bandwidth connection between the two that allows the phone to do most of the processing work.

Mr. Hanke says Niantic and other companies are working on such solutions, in order to bring full AR to a glasses-like form factor. "Doing this means a fair amount of mass and heat dissipation that doesn't have to go on your head anymore," he adds.

That approach also would play to Apple's strengths, given the iPhone's popularity. And, if Apple does opt to offload much of the necessary processing to the iPhone to keep its smart glasses svelte, it could further entrench the iPhone as the dominant mobile device in many markets, says Mr. Boland, the analyst. As growth in demand for smartphones slows, Apple's strategy has been to sell more and more accessories, like watches and headphones, and adding smart glasses to that growing list just makes sense, he adds.

Whether or not people will actually adopt smart glasses, whatever their form factor, is a design and cultural challenge. "People just hate stuff on their face, frankly," says Mr. Travers of Vuzix. As the world saw with the backlash against the original Google Glass, and the mixed feelings reviewers have expressed about more recent efforts, like Meta's collaboration with Ray-Ban to put cameras into sunglasses, asking people to put a computer on their face is a far cry from asking them to carry a smooth, thin slab of glass and metal that can disappear into a purse or pocket.

This is where another of Apple's advantages may have an impact: Its ability to market its devices -- and for those devices to market themselves. The company is expert at creating hardware that inspires FOMO -- an acronym for the "fear of missing out." And it has a vast army of developers that create the software and services that drive that feeling.

If Meta succeeds at building a software-based metaverse, but Apple's headsets become the best and most popular way to access it, it wouldn't be the first time that Apple's devices were a primary way that users access Facebook, WhatsApp and Instagram, all of which are of course massively popular on the iPhone.

Some AR proponents think that the FOMO-inducing killer app for spatial computing could be gaming. But, as with the smartphone, whose killer app proved to be many apps, all made possible by mobile internet access, there may be no single driver of adoption for smart glasses. "I think it's going to be about making all the things you do on your phone today easier, less intrusive, and more natural to access, by presenting them contextually as you move through the world," says Mr. Hanke.

There remain a lot of uncertainties about AR. It's possible that Apple's headset sales will never be much bigger than its watch business -- a sizable business by any objective standard, but a fraction of the total revenue of what is intermittently the world's most valuable company.

4 Dec 2021 00:00 ET Apple's iPhone Successor Comes Into Focus -2-

But it's also possible that augmented reality and the broader phenomenon of spatial computing is, as some would have it, the natural successor to the PC and the smartphone. In which case the battle between Facebook, Apple, Google and hundreds of other companies over who will provide which parts of that future is just getting started.

Write to Christopher Mims at christopher.mims@wsj.com

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Extras, IndyBest, Black Friday

Black Friday laptop deals 2021: Best discounts on MacBook, Lenovo, Chromebook, Dell and gaming laptops

Steve Hogarty

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We've found the best savings on gaming laptops, Apple and Windows machines

It's the last weekend of November and that can only mean one thing – [Black Friday](#) is now finally upon us. The shopping bonanza has seen prices cut on everything from [gadgets](#) and [TVs](#) to [beauty](#), [toys](#) and [clothing](#) – and now we're on day three, there's no slowing down.

It's one of the best times to find a great deal on a [laptop](#) too. And it's not uncommon to see discounts on the very latest laptops, as we've found below. But, with the launch of the new [Apple MacBook pro](#) in October, and the Huawei matebook 14s, there are some enticing savings on older models too.

Follow live:

[The best Black Friday deals still available now](#)

Of course, this isn't our first rodeo at IndyBest. Like every year, we'll be tracking the best deals across [tech](#), [gaming](#), [home appliances](#) and [fashion](#), to cut through the noise and bring you expert shopping advice and discounts that are actually worth your time. We can spot a good offer a mile away, so stick with us as we'll be adding more deals as we find them, right across the weekend and into [Cyber Monday](#).

For more tech offers you can browse our [main Black Friday tech guide](#), and be sure to bookmark this page and check back throughout the day, as we'll be featuring more laptop deals as they continue to appear.

Read more:

* [Black Friday 2021: Ultimate guide to the best deals](#)

* [The best offers from Currys this Black Friday](#)

* [Black Friday TV deals 2021: Top discounts](#)

* [The best Apple deals to browse this Black Friday](#)

Best Black Friday 2021 laptop deals

Microsoft surface laptop 4, ryzen 5, 8GB RAM, 128GB SSD, 13.5in: Was £899, now £699, [Johnlewis.com](#)

The surface laptop 4 is a delight to work on thanks to its stylish design, premium finish and sharp display. The laptop appears in our round-up of [the best laptops of 2021](#), and in [our full review](#) our tester was suitably impressed by its performance, describing the device as "as near-to-perfect a Windows experience as you can find". Right now, the entry-level configuration of this top-rated laptop has £200 off at John Lewis & Partners's Black Friday event.

[Buy now](#)

Microsoft 13.5in Surface book 3: Was £1,599, now £1,249, [Currys.co.uk](#)

There's an eye-catching £350 off Microsoft's gorgeous two-in-one surface book 3 at Currys. This is the brand's flagship laptop, a high-performance and impressive-looking machine with a beautiful, minimalist design to give Apple a run for its money. We featured it in our round-up of the [best laptops of 2021](#), where our reviewer was bowled over. "The surface book 3 has performance to back up its looks," they said. "The

keyboard is comfortable to work on and the 3:2 ratio screen is a natural fit for web browsing and document editing. At the touch of a button, the screen comes away and can be used as a fully mobile Windows tablet.”

[Buy now](#)

Apple MacBook pro, 14in, M1 Pro, 2021, 16GB RAM, 512GB storage: Was £1,899, now £1,799, [Amazon.co.uk](#)

If you're looking for the latest and greatest MacBook pro with the new M1 Pro chip, then look no further. Amazon is serving up Apple's new 14in laptop with a sizeable £100 discount, despite it only launching a little more than a month ago. “Apple's new MacBook pro is a radical update, from the slick, classy design to the rethought keyboard and eye-poppingly brilliant display,” our writer said in their review. “What we want is a laptop that does everything at speed, without delay, has strong battery life and an immersive display. The new MacBook pro does all of the above with aplomb, better than any laptop we've used before, from any manufacturer. It is a country mile ahead of the competition.” It's currently marked as temporarily out of stock, but you can still process the transaction – Amazon advises to place your order anyway, and it'll email an expected delivery date when the MacBook is back.

[Buy now](#)

HP pavilion 15.6in R5 gaming laptop bundle, 8GB RAM, 256GB SSD, GTX1650: Was £899, now £629.99, [Argos.co.uk](#)

There's £270 off this powerful gaming laptop at Argos right now. The 15.6in HP pavilion R5 comes bundled with the brand's own RGB mouse and headset accessories. The extra bits aren't the most advanced in the world, but mean this laptop is a complete gaming system straight out of the box. Under the bonnet you'll find a fast Ryzen 5 processor supported by 8GB of memory and a mid-range GTX1650 graphics card, enabling you to play all of the latest PC games and multitask with ease.

[Buy now](#)

Lenovo thinkpad T14s AMD gen 1: Was £1,830, now £999.99, [Lenovo.com](#)

With a huge 45 per cent off using code “MEGADEAL”, this is one deal you might want to check out sooner rather than later. Built for those with a need for speed when it comes to getting online, thanks to modern standby the thinkpad T14 takes only one second to wake up, and will get you online in just one more. Its wake on voice lets you work hands-free, and if you're planning to travel with your laptop, it can also handle desert dust storms, zero-gravity and the arctic wilderness – how about that.

[Buy now](#)

Asus C202 11.6in Chromebook: Was £199, now £129, [Currys.co.uk](#)

A cheap but decent laptop for students or professionals who are always on the move, this Asus Chromebook is powered by Google's own operating system and has a bright 1080p screen that's sharp enough for both work and play. We featured the C202 in our round-up of [the best Chromebooks](#), where our tester was suitably impressed, saying “if you want to pay as little as possible for a laptop, it's hard to beat this model from Asus”.

[Buy now](#)

HP Chromebook 14in laptop PC 14-db0003sa, chalkboard grey: Was £239.99, now £149.99, [Amazon.co.uk](#)

Said to lend itself nicely to both work and entertainment, you can now nab this Chromebook from HP for just £149.99. Slim and unassuming, it offers 32 GB of storage and up to 10 hours and 30 minutes of battery life, perfect if you're studying or working on the go. A similar offering from HP landed a spot in our [best Chromebooks edit](#), where our tester said: “This model is a great balance between value and capabilities, with the 4GB of operating memory making a real difference to the usability of the laptop: it's faster than many and works well.”

[Buy now](#)

Samsung Galaxy book pro 360: Was £1,199, now £969, [Amazon.co.uk](#)

This model of the Galaxy Book Pro 360 by Samsung is powered by an Intel Core i5 processor with 8GB of RAM and 512GB of storage. The laptop runs Windows 10 and has a 13.3in, AMOLED display that rotates through 360 degrees, turning the computer into a touch-sensitive tablet, with support for Samsung's S Pen stylus. [Our reviewer said](#) of the Samsung: “This laptop is perfect for content creators, students, home-workers and even businesses who want to have a little fun with their machines.”

[Buy now](#)

Google Pixelbook go, Core i5, 8GB RAM, 128GB SSD: Was £829, now £729, [Johnlewis.com](#)

If you do most of your work inside a browser window, Chromebooks are a better alternative to more full-featured Windows laptops or MacBooks. They run on Google's own operating system, so they're fast, streamlined devices with supercharged battery life, unbeatable security and near instant boot-up times. Designed to showcase what a Chromebook is capable of, the Pixelbook go is our recommended laptop in this category. Right now, John Lewis & Partners is discounting the laptop by £70.99.

[Buy now](#)

Microsoft surface laptop go, Core i5, 8GB RAM, 128GB SSD, 12.5in laptop: Was £699, now £529, [Currys.co.uk](#)

Described as the lightest surface laptop yet, this surface go weighs just over 1kg and has a 12.5in display. It is powered by an Intel Core i5 processor with 8GB of RAM, runs Windows 10 and has an impressive claimed battery life of up to 13 hours. Although not a work powerhouse, this laptop is well suited to those who want a compact machine for web browsing, word processing and social media, while also using Office applications (sold separately).

[Buy now](#)

Asus TUF dash F15 15.6in gaming laptop: Was £1,049, now £799, [Currys.co.uk](#)

Gaming laptops take the performance of bleeding-edge desktop PCs and compress all that technology into a portable form factor, providing a more compact way to play PC games wherever you are. The Asus TUF dash F15 sports a 144hz screen for silky smooth frame rates and is equipped with a high-performance GTX 3050 ti graphics card that can handle even the latest releases. This particular model has been clocked running Fortnite at 180fps.

[Buy now](#)

Huawei matebook D 15, Core i3, 8GB RAM, 256GB, SSD, 15in: Was £529.99, now £379.99, [Huawei.com](#)

A beautifully designed Windows laptop, the matebook D 15 is an entry-range Huawei styled after the MacBook air. We featured the premium version in our round-up of the [best laptops for students](#). The D series is more budget-friendly, but is similar in design and doesn't skimp on style. This is the ideal device for anyone who needs to take their work with them, and because it runs on a moderately powerful Core i3 processor it can handily be used for low-end gaming and streaming entertainment too.

[Buy now](#)

Huawei matebook 14, Core i5, 8GB RAM, 512GB SSD, 14in: Was £999.99, now £799.99, [Huawei.com](#)

The Huawei matebook 14 is a powerhouse laptop with a modern chassis, and right now it can be picked up with a £200 discount and a free Huawei mouse. The matebook is one of the best Windows 11 laptops around, with a taller 3:2 ratio display that's perfect for productivity. [Our reviewer loved the Matebook's performance](#), calling it "sturdy and strong – albeit a little heavy compared to its very sleek design."

[Buy now](#)

Asus vivobook 15, Core i5, 16GB RAM, 512GB SSD 15.6in: Was £699.97, now £579.97, [Box.co.uk](#)

A mid-to-high end Asus vivobook, this 15in laptop is a smart-looking machine with an ultrathin design and an HD screen that's perfect for everyday professional tasks. The colour-blocked enter key adds a bit of pizzazz to the austere world of ordinary looking laptops, while powerful specs such as the Core i5 processor ensure there's more to this vivobook than just looks.

[Buy now](#)

Lenovo ideapad 5i Chromebook gen 6: Was £399, now £339.99, [Lenovo.com](#)

If you're looking to save on a Chromebook, Lenovo has discounted this Lenovo ideapad by £60 this Black Friday when using discount code "BLACKFRIDAY". Boasting a full HD touchscreen, battery life up to 10 hours and a weight of 1.35kg, it's perfect for working and browsing on the go. In our [review](#) of a similar and pricier ideapad laptop from Lenovo, our tester praised the screen, battery life and solid body, adding that it's "for users who want the reliability of a laptop but the portability of a tablet and will provide you with a solid and reliable performance".

[Buy now](#)

Honor magicbook pro AMD, Ryzen 5, 16GB RAM, 512GB SSD, 16.1in: Was £849.99, now £599.99, [Hihonor.com](#)

There's £250 off this powerful Honor laptop until Friday. The spin-off sub-brand of Huawei was best known for developing smartphones, but in recent years has shifted its focus towards building smart, minimalist, Macbook-style portable PCs. Our in-house expert [reviewed the Honor magicbook pro](#), stating that it "combines excellent performance with a host of features and is an all-round good looking machine." Two laptops are currently discounted for Honor's Black Friday sale, this 16.1in powerhouse and the smaller magicbook 14 below.

[Buy now](#)

Apple MacBook air, M1, 2020, 16GB RAM, 256GB storage: Was £1,279, now £1,149, [Very.co.uk](#)

Very has slashed the price of the 2020 M1 MacBook air with 16GB of RAM by £130 in its Black Friday sale. The laptop featured in our round-up of the [best high-end laptops for great performance](#), with our tester saying that it was "remarkably lightweight and slim, an effect made all the more appealing thanks to a tapered design – at its thinnest point, it's 0.41cm thick". And the new version is the first to use Apple's own M1 chip instead of an Intel processor, meaning it's breathtakingly fast too.

[Buy now](#)

Apple MacBook air, M1, 2020, 8GB RAM, 256GB storage: Was £949, now £889, [Currys.co.uk](#)

If you don't think you'll need the sheer horsepower of a MacBook air with 16GB RAM, then Currys is also selling the 8GB model with a £60 discount. Of course, it uses Apple's new blazing-fast M1 chip, so you won't be missing out. "It's so strong that many who have previously sought out the pricier MacBook pro will find this more than powerful enough for their needs," said our writer in their round-up of the [best high-end laptops](#). "The extra power has not diminished the air's great battery life, however, as this model has six more hours of usability than the previous model."

[Buy now](#)

Apple MacBook pro, M1, 2020, 8GB RAM, 256GB storage: Was £1,299, now £1,159, [Very.co.uk](#)

Very has taken a £140 bite out of this Apple... 2020 M1 MacBook pro with 8GB of RAM and 256GB of storage for Black Friday. The laptop featured in our round-up of the [best laptops for high-end performance](#), with our tester saying that "unlike the Air, there is a fan in this model which means the fast performance can continue for even longer," adding that the "pro includes a slightly more powerful graphics chip". Of course, you also get the nifty touch bar instead of the top row of physical function keys.

[Buy now](#)

HP envy x360 convert 13.3in 2 in 1 laptop, Intel Core i5, 512 GB SSD: Was £899, now £699, [Currys.co.uk](#)

This HP laptop features a conventional laptop mode, allowing for normal operation during work hours, but the 360 degree hinge allows the keyboard to fold away to turn it seamlessly into a tablet for web surfing or movie watching. There's a 13in touchscreen, with an ultra-thin bezel allowing a vivid and bright display, and it's also only a shade over 1kg, so it's light enough to take on your travels. It's long-lasting too – there's an impressive 10.5 hours of battery life.

[Buy now](#)

Honor magicbook 14, Core i5, 8GB RAM, 512GB SSD, 14in: Was £799.99, now £499.99, [Hihonor.com](#)

The magicbook 14 is a rebranded version of [Huawei's matebook](#) 14 and is functionally identical to the mode we featured in our round up of the [best high-end laptops of 2021](#). There are a few differences, though: this discounted laptop runs on the newest Intel processor rather than the rival AMD chip, and has half the RAM. However, 8GB is plenty for everyday use, and helps keep down the price of this stylish portable machine.

[Buy now](#)

Asus zenbook UX425EA 14in laptop: Was £699, now £499, [Currys.co.uk](#)

If you don't need the touchscreen display of the higher-spec zenbook UX534FAC (£899, [Currys.co.uk](#)), then this cheaper model will still see you bag a £200 saving. The UX425EA ships with an i3 processor and provides more than enough speed and storage space for everyday use, photo editing and web browsing. The

frameless display helps keep size and bulk down to a minimum, and the battery lasts an impressive 22 hours. The Asus zenbook range has often featured highly in our laptop guides, including our [best laptops for 2021](#) round-up.

[Buy now](#)

Asus zenbook 15 UX534FAC, Core i7, 16GB RAM, 512GB SSD, 15.6in: Was £1,099, now £899, [Currys.co.uk](#)

This 15.6in laptop features a clever trackpad display that functions like a smartphone touchscreen, meaning you can run apps and helpful tools at your fingertips. This is a top-of-the-range Asus zenbook powered by a class-leading Core i7 processor and a generous 16GB of memory, giving it desktop-style performance in a portable and stylish form factor.

[Buy now](#)

Asus zenbook flip 13 laptop, Core i5, 8GB RAM, 512GB SSD, 13.3in: Was £599.99, now £549.99, [Argos.co.uk](#)

This lightweight 1kg laptop, which comes with 8GB RAM, an i5 processor and 512GB storage capacity, has £50 off right now, which we think is a flipping good deal. The device is said to be a great all-rounder, with an outstanding 16-hour battery life and an impressive touchscreen display. It should suit emailing, reading, watching and writing, as well as more processor-intensive tasks.

[Buy now](#)

HP pavilion 14-dv1629sa, 14in, Intel Core i5, 512 GB SSD: Was £699, now £529, [Currys.co.uk](#)

There are some good deals to be had this Black Friday on everyday laptops suitable for students and home working. You can save £170 on this HP pavillion model with an i5 processor and a large 512GB SSD for document and photo storage. It features an 8-hour battery life and a fast charging feature that gives a 50 per cent charge in just 45 minutes.

[Buy now](#)

What is Cyber Monday?

[Cyber Monday](#) is an online sales event taking place on the Monday after American Thanksgiving, and marks the end of the [Black Friday](#) weekend. This year, that's 29 November.

The name Cyber Monday was first used in 2005 – back when people still said “cyber” – and when stores noticed a huge spike in online sales after Black Friday. In 2020, Cyber Monday was the largest online shopping day in US history, generating \$10.7bn (£7.7bn) in sales.

Voucher codes

For the latest discounts on laptops, appliances, toys and more, try the links below:

* [Currys discount codes](#)

* [Apple discount codes](#)

* [Very discount codes](#)

Read more on Black Friday 2021

[The best Black Friday deals this year](#) – the very best discounts we've found

[Best Black Friday tech deals](#) – whether it's a new phone contract or noise-cancelling headphones, you'll find the best offers here

[Best Black Friday home appliances deals](#) – now's the time to upgrade your vacuum cleaner or coffee machine

[Best Black Friday gaming deals](#) – Xbox or Playstation? Here's our expert guide to discounts on consoles, controllers and games

[Best Black Friday beauty deals](#) – stock up on your favourites across make-up, skincare, haircare and fragrance

[Best Black Friday TV deals](#) – update your at-home cinema experience without paying full price

[Best Black Friday clothing deals](#) – whether it's a pair of boots or a coat, treat yourself to some new wardrobe essentials

[Best Black Friday kids' toys deals](#) – get your Christmas shopping done and dusted with offers from Disney, Lego, Playmobil and more

[Best Black Friday sports deals](#) – kit out your home gym or build your winter workout wardrobe

[Best Black Friday Nintendo Switch deals](#) – whether it's the OLED, lite or original you're after, level up with these discounts

[Best Black Friday mattress deals](#) – rest easy with big offers on brands such as Emma, Eve Sleep and Simba

[Best Amazon Black Friday deals](#) – our pick of the best bargains from the millions out there

[Best Apple Black Friday deals](#) – discover rare offers on the brand's bestsellers, from AirPods to iPhones

[Best Argos Black Friday deals](#) – find discounts on everything from kids to homeware, fitness and DIY

[Best Boots Black Friday deals](#) – there's no better time to save on beauty, skincare, electric toothbrushes and more

[Best Currys Black Friday deals](#) – for everything from TVs and laptops to kettles and coffee machines

[Best Black Friday Dyson deals](#) – bag a bargain on the brand's corded, cordless and handheld vacuum cleaners

[Best John Lewis & Partners Black Friday deals](#) – the high street stalwart has great prices on fashion, beauty, tech, kids and homeware

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Asia, India

Black Friday India laptop deals 2021: Best early discounts on HP, Dell, Windows and gaming laptops

Peony Hirwani

1,370 words

24 November 2021

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Independent Online

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English

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Amazon is cutting prices on HP, Dell, and Apple devices this year

With just a week left until [Black Friday](#), many retailers are preparing for one of the biggest sales event on their commercial calendar.

This year's discounts day falls on 26 November and will see offers on everything from laptops, TVs, and smartphones to clothing, beauty, and shoes. We're already seeing some great early [deals](#) roll in from Nykaa and Flipkart, and this week Amazon joined them, offering huge early discounts across various kinds of gadgets.

Here, we're focusing on the best [Black Friday 2021](#) laptop deals in India.

For more tech offers, you can browse our [main Black Friday tech guide](#), and be sure to bookmark this page and check back as the big day approaches, as we'll be featuring early laptop deals as they continue to appear.

Best early Black Friday 2021 laptop deals

HP EliteBook 14 inch (35.56 cm) HD Laptop (AMD A8 Pro/8 GB RAM/500 GB): Was ₹89,990 now ₹26,699, [Amazon.in](#)

[HP](#) EliteBook gives a fast performance at an affordable price. It is a thin and light laptop ideal for professionals or students. It is powered with AMD A8 Pro 7150B 1.9 GHz, up to 3.2 GHz with max boost, 8 GB RAM along with 500 GB HDD storage which enhances the overall performance of the machine and 4 MB cache. The product also comes with relevant accessories and is backed by a minimum of a six-month seller warranty.

[Buy now](#)

LG Gram 17 Ultra-Light Intel Evo 11th Gen Core i7 (16 GB RAM, 512 GB SSD, 17-inches): Was ₹1,50,000 now ₹1,06,989, [Amazon.in](#)

LG Gram 17 Ultra-Light Intel Evo is a premium laptop that has an 11th Gen Intel Core processor, which helps the Intel Iris Xe graphics make the no-tradeoff Intel Evo experience possible. The company promises to have tested and re-tested it so that 25 apps and 200 tasks can be repeated 15 times under real-world conditions to ensure it will perform the way you need it to.

[Buy now](#)

2020 Apple MacBook Pro (13.3-inch/33.78 cm, 16GB RAM, 1TB SSD) Was ₹1,94,900 now ₹1,69,990, [Amazon.in](#)

2020 [Apple](#) MacBook Pro comes with twice the storage and faster performance, the company has said. It also includes the Magic Keyboard, which first arrived in the larger model in 2020, and was intended to address [widespread concerns about Apple's laptop keyboards](#). Apple has added a host of new upgrades on the inside, including doubling the storage of the previous generation, going up to 1TB, and new processors. The company now offers 16GB of memory as standard. It can be increased up to 32GB, which was not available in any previous generations of 13-inch MacBook.

Read The Independent's review of the product [here](#).

[Buy now](#)

Dell 15 (2021) i5-10200H Gaming Laptop (8Gb RAM, 512Gb SSD, 15.6") Was 1,00,000 now 68,990, Amazon.in

Customers can upgrade to Windows 11 for free when available. The upgrade rollout plan is being finalised by [Dell](#) and is scheduled to begin late in 2021 and continue into 2022. This device has an orange backlit keyboard, 3-Cell Battery, and weighs 2.4kg. Buyers will also have access to one year premium onsite support services.

[Buy now](#)

Lenovo IdeaPad Slim 5 11th Gen (Intel Core i5 15.6" 39.62cms) Was 95,000 now 68,800, Amazon.in

As you may have guessed from the name, the weight is key with this model. While this laptop is not a high-specification powerhouse, it'll still be more than adequate for casual users or students, and Google's Chrome OS does a good job of keeping everything in check behind the scenes.

[Buy now](#)

Lenovo IdeaPad Slim 3 2021 11th Gen (Intel Core i5 15.6" 39.62cm) Was 75,390 now 54,990, Amazon.in

An ideal device for students, this laptop is lightweight and offers a free upgrade to Windows 11 when available later this year.

[Buy now](#)

Tips for Black Friday shopping online

When shopping for Black Friday deals, check the item's recommended retail price RRP, so you can be certain that the discount is legitimate. Some unscrupulous retailers like to increase the price of popular products before Black Friday to make their discounts seem bigger.

Sign into your accounts at shops like Amazon for a faster checkout. Some deals don't last long, and the precious seconds wasted entering payment details and addresses might mean you miss out on [that half-price blender you had your eye on](#). If you're after next-day delivery, sign up for [Amazon Prime](#) or start a free 30-day trial.

You can also sign up for newsletters to receive the latest updates from retailers, so you'll be the first to know when the sales start and have access to any discount codes.

We'd also recommend reading the retailer's returns policy if you've not shopped there before. And finally, ensure your anti-malware software is up to date. Read our review of the best solutions [here](#).

What is Black Friday?

[Black Friday](#) is an annual sales event taking place in November, the day after Thanksgiving in the US. Originally lasting a single day, Black Friday now spans the entire weekend and ends with an even bigger sales event, [Cyber Monday](#).

This year, Black Friday falls on 26 November, though many retailers begin discounting products in the weeks leading up to the event.

How did Black Friday begin?

Black Friday gained significant popularity in the US in the mid-2000s, when online shopping was still quite nascent. The increasing use of the worldwide web resulted in a jump in online sales, which began to compete with, and have now overtaken, sales at physical stores.

Over the years, just like how conventional retailers officially adopted the holiday and had hordes of shoppers flood their stores, the global shopping boom has resulted in several parts of the world observing their own Black Friday holiday events.

An exhaustive study by Adobe Analytics has underscored the rise in online shopping for this year.

Global online spending is expected to hit \$910bn (£674bn) this season, with holiday sales in the US accounting for \$207bn (£153bn) worth of sales between 1 November and 31 December, according to a release issued by Adobe on 20 October.

When is Black Friday 2021?

[Black Friday](#) starts on 26 November and continues until [Cyber Monday](#) on 29 November. Last year, [Amazon](#) started discounting products as early as 24 October, a month ahead of the main event.

Once Amazon kicks off its Black Friday event, other retailers tend to get involved too. Watch out for early deals from your favourite online retailers, and check back here for updates and new discounts in the weeks running up to Black Friday.

What is Cyber Monday?

[Cyber Monday](#) is an online sales event taking place on the Monday after American Thanksgiving, and marks the end of the [Black Friday](#) weekend. This year, that's 29 November.

The name Cyber Monday was first used in 2005 — back when people still said “cyber” — and when stores noticed a huge spike in online sales after Black Friday.

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[Black Friday India: Best Apple deals to watch out for](#)

[New study finds India's Covaxin was only 50% effective during second wave](#)

Document INDOP00020211124ehbo007bz



Business

Qualcomm maps key points on growth into 5G; San Diego wireless giant's shares surge as execs lay out path

Mike Freeman

679 words

18 November 2021

San Diego Union-Tribune

SDU

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English

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For years, Qualcomm has talked about diversifying its business beyond smartphones and into cars, drones, **virtual reality** headsets and myriad other connected devices.

Executives for San Diego's largest public company fleshed out that diversification strategy at its Investor Day in New York earlier this week. The bottom line: Qualcomm has enough established growth catalysts in its sights to post hefty financial gains even if **Apple** drops its chips from iPhones.

The growth is expected to be driven by the transition from 4G to 5G in Android smartphones, more Qualcomm semiconductor content per 5G handset and continuing traction as a technology supplier to automakers and Internet of Things markets.

"You know us from mobile, but we're no longer defined by that single end-market or a single customer relationship," said Chief Executive Cristiano Amon. "There's more to Qualcomm."

Investors - long spooked by Apple's efforts to ditch Qualcomm as a supplier - liked what they heard. The company's shares have jumped nearly 9 percent so far this week. The stock is up more than 40 percent in the past month as Qualcomm's growth path comes into better focus.

Here are four key takeaways from the event.

Apple forecast

Apple hasn't said when its efforts to develop an in-house cellular modem - which drove the Cupertino company to establish an engineering hub in San Diego - will be ready.

But for forecasting purposes, Qualcomm assumed that its cellular chip share would fall to just 20 percent when the 2023 iPhone launches, and zero thereafter, said Chief Financial Officer Akash Palkhiwala.

Even so, Qualcomm expects to deliver its roughly \$47 billion in revenue for fiscal 2024 and adjusted earnings in the \$12-\$13 per share range.

That's up \$33 billion in revenue and \$8.54 per share in earnings in fiscal 2021, which ended in September.

Some Wall Street analysts think Qualcomm is being pessimistic about how soon it will be out of the iPhone.

"We believe share loss will be less severe and happen more gradually than these assumptions indicate," said Matthew Ramsey, an analyst with Cowen, in a research report.

PCs going mobile

Qualcomm plans to challenge Apple in the personal computer market when it brings a new high-performance ARM-based central processor to Windows laptops in 2023. It would compete with Apple's touted M-series ARM processors used in Macs.

Last year, Qualcomm acquired startup Nuvia, founded by former top Apple chip designers, for \$1.4 billion to boost its prowess in CPUs.

"In our view, the PC industry needs to mount a response to the performance and battery life of M-1-based Macs," said Chris Caso, who is an analyst with Raymond James. "Microsoft seems to be on board, and Qualcomm is the logical partner."

Car tech

Qualcomm sold \$975 million to automakers last year, mostly for the digital cockpit and telematics.

But it forecast auto sales jumping to \$3.5 billion in five years and \$8 billion in 10 years, largely based on its current order backlog.

Qualcomm is making a push into Advance Driver Assistance Systems through its Snapdragon Ride technology. It announced this week that BMW Group's next-generation automated driving system will be based on Snapdragon Ride.

Internet of Things

Last year, Qualcomm had 14,000 customers buying its products for Internet of Things applications, which range from connected cameras in commercial truck fleets to 5G-based home broadband gear. It expects revenue to grow from \$5.1 billion in fiscal 2021 to \$9 billion in 2024.

"It is really an opportunity to connect everything that is supported by the cloud economy in what we call the connected intelligent edge," said Amon. "It's about billions of devices that are becoming smarter. They're becoming connected. They have efficient processing and they're enabling the cloud economy. We are the company that will power the connected intelligent edge."

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David Stevenson: **Apple** not Facebook could be the killer bet on the metaverse

David Stevenson

1,365 words

15 November 2021

Citywire

CWIRE

English

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The announcement that Facebook is going to change its name to Meta Platforms generated a collective groan among my peers, especially those sci-fi nerds for whom the concept of the metaverse online has been common currency for at least a decade (check out Neal Stephenson's books). For me though, the announcement had an added personal twist.

One of my oldest friends – a proper tech nerd – has been touting the enabling technologies behind the metaverse for decades. He was into **virtual reality** (VR) in the 1980s and 1990s and I can vividly remember him saying those infamous famous words: 'This'll be the next big thing'.

Trying on his headset and zooming through countless virtual worlds, all I remember thinking was that the headset was bloody uncomfortable, that I felt dizzy and that the virtual worlds weren't terrifically exciting. My friend is no longer in the VR business, but I think it is fair to say that virtual reality (full on headset), augmented reality (think glasses with a display screen) and the rise of virtual worlds online have proved a corporate graveyard for many an ambitious tech titan. Just like nuclear fusion, it's always nearly there.

Well, maybe this time we are approaching 'that moment' when it will be the next big thing. Why? A number of signs suggest that the serious money is lining up behind the metaverse. Giant US investment bank Morgan Stanley has just released a spate of reports – 'The Next Big Theme – Metaverse' by Edward Stanley is one summing up the tone nicely – which highlight in detail why we need to think about this new world emerging.

According to Morgan Stanley, the metaverse in a nutshell is: 'A virtual world for immersive experiences that is persistently available and where users can explore vast numbers of experiences concurrently. Within these experiences, people across the world can meet, play, watch, trade and learn across millions of experiences.'

The enabling technologies behind this catch all term include augmented reality (those glasses again), virtual reality (think Oculus headsets worn by gamers), virtual gaming worlds and 'digital twin' technologies used by big corporates to manage physical assets online.

The immediate reaction of most paid-up cynics – me included – is to wheel out all the old doubts and point to all the failed next new things. But there are tangible signs that maybe 'this time is different'. There are now real world applications and hard money being invested in the next great leap in the immersive electronic experience. In no particular order, I'd highlight the following:

- * Facebook means business. It's already said it will hire 10,000 employees in the EU to work on metaverse, and in aggregate intends to spend \$10bn on Metaverse applications in 2022. And to be fair to the company, it has form in this space. It owns Oculus which dominates the \$3 billion VR headset market with a 63% market share. It's hard to work out exact figures but most analysts reckon Facebook is now generating around £1bn of sales in VR equipment

- * The metaverse is already here in terms of virtual worlds. Millions of people play on metaverse platforms every day, which typically take the form of social gaming.

- * The virtual reality business is already established in commercial applications: think surgeons and engineers using headsets. Microsoft's augmented (or mixed) reality product HoloLens is already the leader in its space with a 22% share of a \$4 billion market.

- * Quoting from the Morgan Stanley report, companies such as Roblox, Facebook and Naver are already 'building their own metaverses within which there is access to millions of experiences that players can move in and out of (albeit currently only within the walled-garden of that company's platform). A "true" Metaverse would allow for interoperability between experiences across all companies' Metaverse platforms.'

* In terms of fundraising, a wall of capital is flooding into newer business within this space. Morgan Stanley reports that average deal sizes in VR-related venture capital have this year jumped from the \$10-15m range to just shy of \$30m as these businesses start to scale up.

* The South Korean metaverse is here already and growing. The country boasts a corporate metaverse alliance and local telco SK Telecom has built its own Ifland metaverse.

* Sticking with Asia, Naver's Zepeto already has 200 million registered users and 700,000 creators.

Our friends from Cupertino

A sure-fire way of figuring out what might become the next big thing in investment land is to see if there's an exchange-traded fund that is based on a thematic. And surprise, surprise, there is. In the US a specialist issuer called Roundhill has launched, guess what, the META ETF.

In the space of 20 weeks since inception, the assets of this fund have increased from \$50m to \$260m. Top holdings in the fund include some well-known names such as Nvidia, Microsoft, Autodesk, Amazon and Tencent, as well as less familiar names such as Roblox and Unity Software. And of course, the newly-coined Meta Platforms

It's not hard to see why money has flowed into this fund. Of course, there's the Facebook rebrand, and the obligatory 'forecasts' of exponential growth. The Morgan Stanley report foresees 'a base case VR hardware market size of \$60bn by 2030 and >\$250bn by 2040 with the lion's share in [consumer sales] where the "killer apps" are beginning to emerge'. Within augmented reality they believe we are fast 'approaching lift-off' where anyone with a smart phone can plug in.

But the likely answer to why this could now be ready to take off after decades seems to be...Apple.

If anyone is going to take VR, AR and the metaverse into the mainstream, it's our friends from Cupertino, who've got hundreds of millions of consumers worldwide to overpay for a phone, tablet and watch (I have all three). Apple specialises in making 'exciting' technology mainstream (if not quite affordable). And the signs look promising for VR and the metaverse.

Apple for instance has 'introduced advanced 3D sensing LiDAR technology in its high end iPhones and iPads to better measure the distance of planes in a 3D world', according to Morgan Stanley. The report adds: 'It's rumoured that Apple is in the process of developing its first generation of AR/mixed reality glasses, with a launch expected in late 2022/early 2023.'

One hopes that Apple will be giving real thought to the challenges. Going back to my old friend's headsets proudly displayed in his home office, the 'form factor' needs fixing. In other words, it's got to feel comfortable, look cool and work. It's also got to make sense financially and the content it gives access to needs to be compelling enough to shell out the money.

What of the investment implications if everything lines up? Well, I suppose it's a safe bet to say that Apple might find the new category killer it's been looking for. While Facebook/Meta Platforms looks to be taking this deadly seriously and, trading at 20 times earnings, isn't insanely overvalued in stock price terms.

I also can't help but thinking that Microsoft will maintain its grip on business-to-business (B2B) applications through this, and it has been the essential tech stock to own for decades now. I like Silicon Valley-based Roblox as a radical disrupter, but the Morgan Stanley report also highlights some 'old world' businesses that might just do well if this space takes off. Those include Entain (interactive entertainment), EssilorLuxottica (wearables world), and Samsung SDI (materials behind AR and VR, plus a stake in Samsung Display).

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Document CWIRE00020211122ehbf000jm

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1,300 words

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Technology

Netflix releases mobile gaming service for iOS users merely a week after Android release; Everything to know

Bulbul Dhawan

534 words

10 November 2021

Financial Express Online

FIEXON

English

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Netflix Games for iOS: Merely a week after it was released for Android users, Netflix' mobile gaming service has been released for iOS users as well. It was anticipated that the service would come to iOS users soon, especially since Netflix had earlier stated that it was working on an iOS version of it, but it wasn't expected to happen after a gap of just a week. Nonetheless, it is something exciting for the iOS users to look forward to. The update to the Netflix app will let iOS users play games via it along with watching movies and television. Playing the games would not attract any additional fees or even ads like is the case with most games, but users would need to have an active Netflix subscription to be able to use the service. The games can be played through the Netflix app on both iPhones and iPads.

Also read | With Apple's App Store policies making it difficult, what options does Netflix have for its gaming service on iOS?

The games initially available through the service would not be accessible from the Kids' profile in the app since they would be limited to adults. Moreover, children would also not be able to play any of the games added through Netflix on a device if adults have set up a PIN to prevent children from having access to the adult profile.

The announcement regarding the release of the service for iOS users was shared on Twitter on Tuesday night, and the feature would start being rolled out to users worldwide starting Wednesday, the OTT platform has said.

<https://platform.twitter.com/widgets.js>

At present, five games have been brought to the mobile users. These are Stranger Things 3: The Game, Stranger Things: 1984, Shooting Hoops, Teeter Up and Card Blast.

In case you are interested in how this will work, here's a gist. Basically, these games are being offered by Netflix, but they cannot be played within the Netflix app itself. They are merely available through the app. So in case you go to the Netflix app and want to play, say, Stranger Things: 1984, what it will do is redirect you to Google Play Store to download the game the first time you choose, and then subsequently, clicking on the game in the Netflix app will cause the game to open, where you can play it. The same thing will also happen in iOS devices, only here, the games would need to be downloaded via the Apple App Store. Since these games are being offered by Netflix, the OTT platform can make sure that a PIN set up for adult profiles is also activated for games suitable for adults, which is why kids would not be able to access these games without the PIN even though they are downloaded separately.

The updated version of the app will be rolling out soon everywhere, including in India, but Financial Express Online did not see the updated version of the app in the App Store till the time of the publication.

Document FIEXON002021111ehba0001a

The Washington Post

Sports

By joining Complexity and YouTube, TimTheTatman looks to evolve, not quit streaming

By Nathan Grayson

1,406 words

2 November 2021

Washington Post.com

WPCOM

English

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In the past few months, Tim "TimTheTatman" Betar has made some big moves. The most prominent one was literal: In September, he departed Twitch, his longtime live-streaming home, for YouTube as part of an exclusive deal that sent shock waves through the streaming landscape. Not long after that, he became part-owner of Dallas Cowboys-affiliated esports organization Complexity **Gaming**. This follows a 2020 in which he signed with WME, a Hollywood talent agency, to potentially explore options in more mainstream realms. To some, these might appear to be the moves of a man with an eye toward the door. Betar, however, isn't ready to quit streaming just yet.

Speaking to The Post, Betar outlined his motivations for upending the **apple** cart after nearly a decade of easygoing reliability on Twitch. While he still enjoys creating content, it's an all-consuming lifestyle, and he's ready to branch out.

"I want to be able to experience more, and I definitely have since I've gotten in there with YouTube, WME and different companies I've been working with," Betar said. "But do I have an endgame? I guess I'd say the answer is 'no.'"

While there is potential for Betar to parlay his new role as part-owner of Complexity into more of a background act and, as he put it, "slowly kind of fade," he's said that's not his aim. These days, the streaming star is trying to put more on his plate — not less. Becoming a part-owner of Complexity made perfect sense to him because he's a big Dallas Cowboys fan, and he said that team owner Jerry Jones is "plugged in" and takes a hands-on approach to gaming rather than just "owning or investing in something and just being like 'Yeah' and letting it run."

"Right now I'm just trying to expand as much as I can without compromising," Betar said. "I want to be able to branch out and get my feet wet in a role — just kind of experience it."

In recent times, an increasing number of prominent content creators have linked arms with esports organizations. This benefits those organizations, which frequently have a difficult time generating a reliable cash flow via the precarious business of esports alone. For example, FaZe Clan, the esports organization that announced its plan to go public with an estimated \$1 billion valuation last week, generated much of its notoriety due to its stable of content creators — not its competitive performance in video games. But when creators like Betar receive splashy titles like "part-owner," what do they actually do? Betar said that at Complexity, he does more than just flash his pearly whites and boost the brand.

"I'm really plugged in and texting [CEO of Complexity's parent company, GameSquare Esports] Justin Kenna and [Complexity founder] Jason Lake — trying to talk to them as frequently as I can and making sure we're on the same page with stuff," he said, using a recent pop-up store in Frisco, Texas, and a merch drop that paired Betar's name with Cowboys iconography as examples of things he's helped plan. "It's not just like, 'Here's some money each year, promote the brand.' I have a drive to make this as big and as good as I can because obviously I am now also an owner of this."

Betar's recent move to YouTube has helped facilitate this dynamic. With streaming now taking up less of his life than before, he can not only spend time with his family — one of the stated goals of his move to YouTube — but also travel.

"I'm not online as much as I was, so I'm also able to do stuff like this Complexity trip, for example, to go to the pop-up," he said. "Before, that might have been more difficult to make happen because of what I was doing as far as streaming hours go."

Betar is also pleased with his decision because it meant putting Twitch in the rearview mirror just a month before an anonymous 4chan user leaked a vast trove of Twitch's data including source code and streamer

payout figures. Betar's pay was part of the leak, and he said viewers ventured over to his YouTube chat just to ask him about it.

"Ultimately, data breaches are terrible, right?" he said. "You don't want info that's not supposed to be out there out there. So obviously, [Twitch] really dropped the ball on that."

In chewing on the ramifications of the leak, Betar used sports, his hobby-turned-business-pursuit, as a comparison.

"I've always thought it'd be interesting to have it be like with baseball players or football players, where their contracts are always announced," Betar said. "After the leak, I still can't really tell if it's a good or bad thing that people have an idea of roughly how much some of these guys and girls make."

At the very least, the leak revealed just how few people are able to make a livable wage on Twitch despite the numerous hours put in by millions of streamers. Betar said he hasn't burned out or lost his passion for streaming like a growing number of his fellow content creators, because even before moving to YouTube, he prioritized taking breaks.

"Kids are doing 200-250 hours per month, and some of the older streamers are still doing 200 hours a month," he said. "It's abnormal what I do; usually I'll take a solid week or two weeks in the summer to spend time with family — grandparents, in-laws and everyone. People online will make fun of me and say I'm a part-time streamer or that I don't even stream, but those breaks are so crucial to me. Honest to God, I think that's why I haven't experienced burnout."

Of course, many streamers are not established enough to risk taking a hit to their subscriber counts, as viewers are liable to wander into the open arms of a bigger name with more hours on the clock. In that regard, Betar has been fortunate. As a streaming institution with nearly a decade of experience, he's built an audience that will stick with him through breaks and, now, a transition to a new platform. Still, he recognizes the mindsets streamers can get into when they spend more time being on-camera personas than regular people.

"Burnout is a very, very serious thing in the industry," he said. "You can get so locked in on these numbers and trying different things like, 'Oh, is this going to work better?' Ultimately, having that balance in life and being able to step away and just kind of take a rest is an extremely valuable thing."

But no matter how you slice it, streaming professionally is an especially time-consuming job. Betar isn't done yet, but there might come a day when he decides it is time to fade out for good.

"I'm 31," he said. "In the gaming space, I'm an older guy, for sure. I was playing games when I was 16. If I thought about a 31-year-old playing games [back then], I would've been like, 'Man, that guy's so old.' As of right now, I still have this passion to create content and stream. Five or 10 years from now, I don't know where I'm going to be. Maybe at that point, after two decades of streaming, I'll be like, 'You know what? I think I'm good.' "

Betar is, however, encouraged by the fact that as he's gotten older, started a family and diversified his interests, members of his audience have done the same.

"I've always wondered: Am I just going to fall off one of these days, like when I'm 35?" Betar said. "But ultimately, the community we've curated is getting older as well. Instead of being 21 and talking about, like, 'Yeah dude, I was at the bar,' now we're talking about [things like], 'My kid is going to kindergarten now.' It's developed into this spot where we're all kind of growing together."

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Science

Apple's upcoming augmented and virtual reality headset that mixes the real and digital worlds will support the newest version of Wi-Fi and allow it to be truly wireless, analyst claims

Chris Ciaccia For Dailymail.Com

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* **Apple's** upcoming mixed-reality headset will use the newest form of Wi-Fi

* This will let it support faster speeds and have a higher number of connections

* Speculation has swirled around cost; some expect the device to sell for \$1,000

* It is expected to be a segue to Apple's eventual AR glasses, Apple Glass

* Apple Glass is not expected to be ready until 2025 at the earliest

Apple's mixed-reality headset that includes augmented reality and virtual reality will use the newest version of Wi-Fi, allowing for the device to eventually be truly wireless.

TF International Securities analyst Ming-Chi Kuo said the oft-rumored device will use Wi-Fi 6E support, according to [9to5Mac](#), which first reported the news.

This feature, which is available in some current virtual reality headsets (such as the Oculus Quest), will let the new Apple device have faster speeds and introduce a higher number of connections.

The device will still likely have to connect to an iPhone or Mac computer, but it could pave the way for it to work as a stand-alone and not be tethered to another device in the future.

Apple has not yet responded to a request for comment from DailyMail.com.

The sixth generation of Wi-Fi, also known as 802.11ax, lets users connect more devices to the internet, further entrenching society into the Internet of Things (IoT) ideal.

It could have very advanced sensors, an 8K display and powerful chips.

Additionally, Sony and Meta (the company formerly known as Facebook) are also expected to unveil new mixed-reality headsets next year, both offering Wi-Fi 6, Kuo added.

Future versions could have 5G mmWave technology that would eventually let the devices operate independent of a laptop or smartphone, Kuo explained.

The headset's AR feature will overlay computer-generated images onto the user's view of the real world, enhancing games and educational programs.

The VR feature fully immerses the user in a simulated environment.

According to the new report, the headset will have its own CPU and graphics processor and might have some basic standalone functionality.

Production is expected to start sometime later this year and could ship in the second-half of 2022, Kuo has said previously.

At this point, it's unclear exactly how much the headset will cost, but all indications are that it will be expensive.

Bloomberg has [called the device 'pricey.'](#) while others have suggested the product could be similar in price to Microsoft's HoloLens 2, which retails for \$3,500.

In the past, Kuo has suggested that the device will cost at least \$1,000.

Apple recently unveiled its new MacBook Pro laptops, which come with a M1 Pro or M1 Max chips and are up to 70 percent faster than their predecessors.

The device is likely to be a precursor to Apple's augmented reality glasses, known as Apple Glass, which could be released at 2025, by the earliest.

Apple CEO Tim Cook has talked about the power of augmented reality for several years.

In April, Cook [told](#) tech journalist Kara Swisher the tech is 'critically important' to the company's future.

Document DAMONL0020211101ehb1006hq

Technology

Intel's 12th Gen Alder Lake 'hybrid' chips are here to take on AMD—and Apple

Saurabh Singh

724 words

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Financial Express Online

FIEXON

English

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Intel's 12th Gen Alder Lake chips have officially arrived. The Santa Clara, California-based chipmaker is kicking things off with six unlocked desktop processors. At the helm will be the Core i9-12900K model which is being billed as the 'world's best gaming processor.' They'll be more broadly available from November 4. Price starts at \$264 (roughly Rs 19,800) going all the way to \$589 (roughly Rs 44,000).

Alder Lake marks the beginning of an all-new era for Intel. No wonder, it has been hyping these chips for a while now, particularly their performance hybrid architecture.

Also Read | Alder Lake is the high-performance hybrid Formula 1 racing car we have built for computing: Intel

Instead of just chasing raw power, Alder Lake will offer a mix of performance—codenamed Golden Cove) and efficiency (Gracemont) x86 cores, a concept similar to Arm's big.LITTLE and DynamicIQ technologies which are employed by Qualcomm in its Snapdragon and Apple in its A-series SoCs. Perhaps an even better comparison—in this context—would be Apple's new M1 chips for Mac.

Going into a little more detail, Intel has basically combined its Core and Atom architectures, bringing them together on a single die to help achieve a balance of power and efficiency, at least in theory.

"A good analogy is to think of conventional hybrid cars that focused on getting the most miles out of a tank of gas versus Formula 1 racing cars that use hybrid technology to achieve maximum performance—they have engines to give them top speed and then electric power to blast them out of the corners with acceleration," Intel's Prakash Mallya had told Financial Express Online recently, adding "Alder Lake is the high-performance hybrid that we built for computing."

To be clear, Alder Lake isn't Intel's first 'hybrid' chip. It had dabbled with the idea last year with its Lakefield chips although they were designed specifically for ultra-portable laptops, foldables and dual screen devices. Alder Lake on the other hand, will take on a much bigger role as Intel's flagship processor powering full-scale desktops, followed by laptops and ultra-portable devices. The 12th Gen Intel Core family will spawn 60 processors, Intel has announced.

At its heart lies the Intel 7 manufacturing process—previously known as Intel's third-gen 10nm process, or Enhanced Superfin—which marks a big transition from the ageing 14nm process that it has been using since 2015.

The top-of-the-line Core i9-12900K will offer a total of 16 cores (eight P-cores and eight E-cores) and 24 threads. It can top 5.2GHz using Intel's Turbo Boost Max 3.0 technology. Tagging along—for now—are the Core i7-12700K (12 cores and 20 threads, with eight P-cores and four E-cores) and the Core i5-12700K (10 cores and 16 threads, with six P-cores and four E-cores) models. Each of these chips will be also available in a 'KF' avatar which is to say they'll come without any integrated graphics—which also means that they'll be cheaper.

Also Read | 'One size can't fit all': Intel's Prakash Mallya on why the chipmaker is making discrete GPUs now

Alder Lake—expectedly—will bring a lot of future-proofing and support for more advanced standards. To that effect, we're looking at support for PCIe 5.0 and DDR5 memory at up to 4800MT/s. They'll also need a new motherboard based on Intel's freshly minted Z690 chipset which comes with Wi-Fi 6E, USB 3.2 Gen 2x2 and an updated LGA 1700 socket.

Driving the whole hybrid approach will be Intel's Thread Director software that's said to be fully dynamic, adaptive, autonomous, and not to mention, intelligent. Using real-world hardware telemetry, it will help guide operating systems to the right workload, which subsequently can be guided to the right cores for a more streamlined—and efficient—performance. A thing to note about Thread Director is that it's designed specifically to work best with Windows 11 and Intel is putting this out front and centre.

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Life and Entertainment

Google unveils Pixel 6 and Pixel 6 Pro smartphones

By Mike Snider and USA TODAY NETWORK

518 words

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English

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It's Google's turn to show off its newest devices. A month after **Apple** released the iPhone 13, Google revealed its latest Pixel smartphones during a **virtual event** Tuesday, Oct. 19. Google is launching two smartphones, the Pixel 6 (starts at \$599) with a 6.4-inch display, and the Pixel 6 Pro (starts at \$899), with a 6.7-inch display. Both displays are made with Gorilla Glass Victus, promising up to twice the protection of previous Pixel displays. The Pixel 6 Pro's display automatically switches to 120Hz for games and other content needed smooth responses. Both phones are available for pre-order and arrive at stores on Oct. 28.

Google designed its own processor for the phones, too. The Tensor delivers 80% faster performance than the Pixel 5 phones, the tech giant says.

Camera upgrades include a sensor that collects 150% more light, the company says. A Face Unblur feature helps capture faces in focus and Google Photo's Magic Eraser lets you remove unwanted things from photos.

The Pixel Pro camera has a telephoto lens with 4x optical zoom and an ultra-wide front camera to make it easier to capture group selfie photos.

Google promises day-long power from its Adaptive Battery. An Extreme Battery Saver feature also boosts battery life to 48 hours by only keeping your favorite apps running and shutting off other ones.

Google is also offering an easy way to get a new Pixel 6 smartphone and favorite Google services in one subscription.

The Pixel Pass (\$45 monthly with a Pixel 6, \$55 with a Pixel 6 Pro) gets you a new smartphone and an upgrade in two years, plus device protection and 200 gigabytes of storage along with an automatic phone backup. You also get YouTube Premium – so you can watch videos without ads -- YouTube Music Premium and Google Play Pass.

Consumers who opt for the pass – available on the Google Store or Google Fi – will save about \$100 to \$300. Those who buy on Google Fi also save \$5 monthly on their wireless bill.

"We started with what is the ideal mobile experience from Google and what things that would come together to give you that," said Chris Breithaupt, project manager for Pixel. "There's the device, peace of mind that if you drop your phone you can get an easy repair, and then there are these mobile services, YouTube streaming and music streaming, apps and games. It feels like the right set."

The new smartphones arrive as Google struggles to capture a larger slice of the smartphone market, dominated by companies including Apple and Samsung. Google's share of the global smartphone market is less than 1%, said Neil Mawston, executive director of research firm Strategy Analytics.

"Google Pixel smartphones have not taken off in the US or worldwide," said Mawston. "Pixel lacks the premium panache of iPhone and the mass-market retail presence of Samsung or Xiaomi."

The Google Pixel 6 and Pixel 6 Pro. | Google

Document DFP0000020211026ehaq00004

The biggest MacBook Pro overhaul is here and it promises to be blazing-fast

1,101 words

21 October 2021

The Telegraph

ABPTEL

English

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It's not always difficult to come up with powerful processors but the challenge is to also make it efficient in energy consumption. **Apple** has got both things going with its two new processors — M1 Pro and M1 Max, which give the MacBook a big push while moving away from Intel and at the same time give creators — animators, video editors, sound engineers, graphic artists... — more than a few reasons to remain loyal to the device because the most complicated of tasks can now be handled on the move.

The arrival of the chips is also a wake-up call for some laptop manufacturers who have been rebranding **gaming** laptops to circulate them for creative professionals who want more power.

Astrologers often get away by saying “expect the unexpected” and that is exactly what has happened. In its most aggressive move to leave its partnership with Intel behind and at the same time prove what can be achieved with custom silicon, Apple has introduced two processors — M1 Pro or M1 Max, which follow last year's M1. The latest processors will help move away from the high-end chips that Intel has provided for the MacBook Pro and other top-end Macs for about 15 years. The transition started last year and now, it's about outperforming Intel solutions.

The two new chips, which will power the new MacBook Pro (comes in 14 and 16 inch), are up to 70 per cent faster than last year's M1, and graphics-wise, the M1 Pro is two times faster and the M1 Max is four times faster. Now, that's insane speeds we are talking about and will leave most laptop manufacturers scratching their heads.

Both built on the same 5nm process, what we are going to see is massive jumps in performance. The M1 Pro has a 10-core CPU (up from eight cores on the M1), with eight high-performance cores and two high-efficiency cores. For graphics, the M1 Pro offers an up to 16-core GPU (with up to 32GB of unified memory) that's twice as fast as the M1. Meanwhile, the M1 Max features the same 10-core CPU coupled with a 32-core GPU (with support for up to 64GB of unified memory).

In case you are a professional video editor or game designer, M1 Max is almost certain to be your companion. With even the latest PC laptops topping out at 16GB of video memory, having this huge amount of memory available is game-changing for pro workloads, allowing pros to do things that were previously unimaginable on a notebook. It means, 3D artists on the new MacBook Pro can now easily work with extreme geometry and textures in scenes that pro PC laptops can't even run. You can edit up to 30 streams of 4K ProRes video or up to seven streams of 8K ProRes video in Final Cut Pro.

Staying on with the MacBook Pro, Apple is bringing MagSafe 3. The company had turned its back on MagSafe five years ago by moving to USB-C but the familiar quick-release connector is returning (USB-C charging also stays). The return of MagSafe is helpful for people whose desks are packed with cables.

And here's something many users have been asking for long — the new computers will ditch the Touch Bar and bring back physical function keys and additional ports (HDMI, SDXC).

One of the rumours to have come true is the arrival of the notch, which appears slick on the 120Hz display. The cut-out will be home to the 1080p camera system with a wider aperture and a larger image sensor that should provide better low-light performance. But there is no Face ID here.

While the smaller MacBook Pro is capable of 17 hours of video playback, the bigger version can go 21 hours. And you can replenish the battery up to 50 per cent in 30 minutes.

Apple arriving at its own chipset has had an interesting history. There was a time when Apple relied on Motorola processor but these didn't always match the performance of Intel chips. Apple knew it needed full control of computing. At the same time, Intel kept investing towards making powerful chips. As soon as Steve Jobs returned to Apple in 1997, the rebuilding strategy began and at the 2005 WWDC, he announced that Apple would be transitioning to Intel and the first Intel Mac came in 2006. But the company didn't give up on its chipset dreams. The success of the iPhone gave Apple resources to realise that dream, which came true

last year. With this year's M1 Pro and M1 Pro Max, Apple can now boast of performance per watt, integrated graphics, integrated memory and integrated applications, which indeed is a milestone.

Third-generation AirPods are arriving with significant changes to the design, especially shorter stems. The more important changes are resistance to sweat and water and the new version comes with a lower distortion dynamic driver for better bass and crisper high-end. The new pair uses computational audio to bring the breakthrough experiences that customers love on AirPods Pro and AirPods Max — like Adaptive EQ and spatial audio with dynamic head tracking — to even more people. Spatial audio creates a three-dimensional theatre-like experience, placing sound virtually anywhere in space.

Unexpected but Apple seems to be taking competition to Google's Nest Mini smart speakers, which are colourful. The company has added yellow, orange and blue versions of its HomePod Mini.

The company's new Music Voice Plan tier may appear confusing. It's a new subscription tier for Apple Music designed around the power of Siri. Subscribers to this plan can access Apple Music's catalogue of 90 million songs and tens of thousands of playlists as well as the award-winning Apple Music Radio — all through Siri for just Rs 49 per month. What you don't get on this plan is lossless audio or spatial audio tracks, lyrics and music videos, which can be enjoyed for Rs 99 a month as part of the service's premium package.

Apple Music Voice Plan: Rs 49 per month; available later this fall.

HomePod Mini: Rs 9,900, available in November.

AirPods (third generation): Rs 18,500, availability in stores starting October 26.

MacBook Pro: The 14-inch MacBook Pro begins at Rs 194,900 while the 16-inch MacBook Pro starts at Rs 239,900. Available to order.

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The Washington Post

Technology

Apple is finally fixing the things people hate most about its laptops

By Chris VelazcoTatum Hunter

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The demise of MagSafe charging. An inelegant Touch Bar. Limited selection of ports. The laundry list of complaints about **Apple's** laptops has steadily grown over the past five years. Now, **Apple** is finally walking back those changes.

On Monday, the Cupertino, Calif., company unveiled a pair of new MacBook Pro laptops, powered by its latest homegrown processors and free of the many limitations that plagued earlier models. It also showed off a set of updated AirPods and colorful HomePod mini smart speakers. Riding high from record Mac sales last year, **Apple** made sure to make its new MacBooks the star of its **virtual event** Monday.

Still, computers that run Apple's macOS software account for only a fraction of the overall PC landscape — just over 7 percent as of the end of the second quarter, according to market research firm IDC. Its market share has slipped from 8 percent in the first quarter and 7.6 percent a year earlier, IDC data showed. The changes on display Monday seem to be geared more toward appeasing existing users than claiming new ones.

So what do the changes Apple has embraced actually mean for you? Here are the Help Desk's biggest takeaways from Apple's announcement.

Apple's chips make MacBooks more powerful than usual

Apple highlighted two new chipsets — the M1 Pro and M1 Max — designed to offer the kind of horsepower you can't squeeze out of current models.

If you spend your days toiling in Photoshop, Lightroom or other creative apps, Apple has you in its sights. Apple said the new MacBooks using the M1 Pro are up to 70 percent faster than last year's M1 models and can be equipped with up to 32GB of RAM. Meanwhile, the M1 Max offers the same level of CPU power as the Pro but can support up to 64GB of RAM and dials up its graphical performance for more-complicated tasks.

RAM (random-access memory), by the way, is crucial to the way your computer works. Think of it as your computer's working memory: The more your computer has, the more things it can keep track of and work with in different apps. By comparison, Apple's 2020 M1 MacBook Pros could handle only 16GB of RAM, which is perfectly fine in most cases but not always enough for demanding work.

If this all sounds too technical, we get it — computer chips usually are. But here's what it boils down to: If you spend most of your time on your laptop in a Web browser, the existing M1 MacBook Pro is more than enough. But if your work requires some serious oomph — such as graphics work or video editing, the M1 Pro and M1 Max machines may be a better fit for you.

Apple said the starting price for its 14-inch model is \$1,999, while the 16-inch model starts at \$2,499.

Undoing the changes people hated

One of the best things about Apple's new MacBooks is how un-MacBook they feel, at least compared with the models released in the past few years.

Take the confusing, not-all-that-helpful Touch Bar, for instance. Apple has insisted on squeezing it onto its laptops since 2016, but now you can find it where it was always meant to be: nowhere. (Instead, the new MacBook Pros have physical buttons to control volume, screen brightness and other things.)

The company's Monday announcement also included the return of MagSafe chargers, which connect to these new computers with magnets and easily detach when yanked. (For anyone who has ever tripped over a cable and saw their computer clatter to the floor, this might be some welcome news.) The new machines have ports

aplenty: There's HDMI for external displays and an SD card reader in addition to three USB-C "Thunderbolt 4" ports for external accessories. (Some versions of last year's MacBook Pro came with two USB-C ports and nothing else.) You'll probably still need to carry a dongle with you everywhere, but some people — such as photographers — may be able to go without, just like the old days.

Better (and in some cases, bigger) screens

Apple's biggest new MacBook Pro comes with a 16.2-inch screen, same as we've seen for the past two years. But the smaller MacBook Pro had its screen bumped up to 14.2 inches, which should let you see at least a little more of the action on screen than before. Size wasn't the only change Apple made here, though. These displays also "refresh" or update faster, Apple claims, so things that happen on screen — scrolling websites, characters running around in games — should look noticeably smoother, too.

But there is one catch here: Both of these screens have notches cut into them to let a 1080p webcam peer at you. That might not be a big deal for everyone, especially if it makes Zoom calls look better, but still — if smartphones can ditch notches, why didn't Apple do it here?

HomePod minis and an AirPods update

If you're looking for a HomePod mini smart speaker to match your interior decor, you're in luck, as long as your decor is blue, orange or yellow. The speakers, along with the traditional black and white options, will go on sale this November for \$99.

Apple also unveiled its third-generation AirPods. The tips are still hard plastic, but the stems are shorter and Apple claims the batteries last longer — six hours on each charge and five full charges if you've got the case with you. Runners and other sweaty people may be glad to hear that AirPods are now water resistant.

A bewildering new Apple Music subscription

This brings us to perhaps the strangest part of Apple's announcement. The company unveiled a new \$4.99-a-month "Apple Music Voice" plan to complement its existing Apple Music subscriptions. The pitch: Control your music selections using voice only.

The details are hazy, but anyone familiar with Siri's constant mistakes and misfires may be shuddering. If I wanted to pay money to be consistently misunderstood, I'd buy a plane ticket to my mother's house.

For now, we'll stick to good old thumbs-on-screen music selection — at least until we understand exactly what value (if any) the voice plan offers.

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Start spreading the news ; Surge in conventions, conferences heralds city's comeback

Leonard Greene

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The same Manhattan venue where self-proclaimed geeks gathered for the Big **Apple's** largest costume party was once one of the busiest hospitals in the city, battling a deadly disease at the height of the coronavirus pandemic.

Spider-Man, Black Widow and Captain America roamed the corridors of the Javits Center, where the popular New York Comic Con made a comeback this weekend after last year's **virtual event**.

But the real superheroes, organizers said, are the doctors and nurses who worked frontline shifts last year when the Javits Center was a makeshift hospital, paving the way for a long-awaited recovery that is helping to get the city back on its feet.

From January to July 2021, the Javits Center also served as the largest COVID-19 vaccination center in the U.S., distributing more than 646,000 vaccines in less than six months.

"We see ourselves as more than just a convention center," said Alan Steel, president and CEO of the New York Convention Center Operating Corp., which operates the Javits Center on the West Side. "We need to be an active part of the community."

Event organizers said the resumption of conventions and conferences have breathed much-needed life into the city.

Hotels and venues like Brooklyn Bowl, which hosts shows, meetings and special events in a space that includes 16 bowling lanes, are cashing in on the comeback after going dark for more than a year.

Venue operators said their recovery has required patience, persistence and full participation in the city's pandemic protocols, from social distancing and mask wearing to vaccine mandates.

"Everybody is vaccinated," said Garrett Ronan, chief operating officer of etc.venues, which hosts large and small events in the U.K. and New York. "Before they come, there are no surprises. No one's getting turned away. They provide us with proof of that."

Ronan said he is excited now about the city's prospects, but he admits his company's timing could have been better.

The British company launched its first New York City venue at 360 Madison Ave. - just three weeks before the shutdown. When restrictions eased, etc.venues hosted a few hybrid events in compliance with the 50-person capacity limits, but it wasn't what company executives had planned for.

"Every business in the hospitality world had to look at furloughing some staff," Ronan explained. "We furloughed some staff. But they came back and rejoined us. We negotiated support from landlords."

Not only did the company survive, but it opened another venue over the summer at 601 Lexington Ave. Ronan takes Metro-North into the city from his home in Connecticut, and makes the 12-minute walk between venues most days. He said he can't help but feel the buzz.

"The trains are busier, the pace is stronger," Ronan said. "I see more professionally dressed people going to work. There's an energy back on the street."

Steel sees it, too. In August, the Javits Center reopened for events - and before Comic Con, the center had more than 30 events booked until the end of the year including the New York City Marathon Expo and the International Contemporary Furniture Fair.

Proof of vaccination is required for access to all events, and with international travel restrictions expected to be lifted soon, more activity is anticipated.

"We got a lot of exposure," Steel said. "People saw that it was safe to come to a trade show."

Steel said he is proud of how the Javits staff steered the center's recovery. He is equally proud of how the convention center did its part during the pandemic.

"It was remarkable," Steel said. "I'm very proud of the response we gave. I hope we don't have to repeat it again."

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WSJ Podcasts

WSJ Podcast Tech News Briefing
How Apple's Scoring Big on Gaming

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Apple doesn't make games, but it's making billions in profit from video **gaming**. It's earning that money by taking a cut from the sales of other game makers. Now challenges to the dominance of **Apple**'s app store and changes to regulations in one of its biggest markets could threaten those earnings. WSJ reporter Tim Higgins joins host Zoe Thomas to discuss how **Apple** has leveled up in the **gaming** world.

[Click here to listen to the podcast](#)

Zoe Thomas: This is your Tech News Briefing for Tuesday, October 5th. I'm Zoe Thomas for the Wall Street Journal. Video gaming is a massive and growing industry. Nintendo, Microsoft's Xbox, Sony's PlayStation, and Activision Blizzard, the publisher of Candy Crush, have all touted record profits and earnings in recent years, but you may be surprised to hear that one company made more profit from gaming in the 2019 fiscal year than all four of those combined, Apple. According to a Wall Street Journal analysis, Apple's operating profits from games totaled \$8.5 billion that year. But Apple's gaming revenue could be under threat, competitors and lawmakers are questioning the dominance of its App Store, and one of its biggest markets is clamping down on gaming all together. On today's show, reporter Tim Higgins, who covers Apple, joins us to discuss how the iPhone maker came to earn so much in this sector and what challenges it's now facing to protect those profits. That's after the headlines.

Frances Haugen, the Facebook whistleblower, will be testifying in front of Congress today. Lawmakers will be asking Haugen about the internal company documents she gathered. Those documents revealed, among other things, what Facebook knew about its impact on the health and wellbeing of young users, and the company's response to what it had learned. Haugen's testimony will be used to update children's privacy regulations and other online consumer protection laws according to the Senate subcommittee holding the hearing. We'll bring you a roundup of the hearing on tomorrow's show. In the meantime, you can watch the hearing live on our website, [wsj.com](https://www.wsj.com).

And speaking of Facebook, the company's platforms, including WhatsApp and Instagram, were offline on Monday. The outages appeared to be widespread, affecting users in multiple countries according to Downdetector. It also impacted Facebook's internal communications. Facebook's Chief Technology Officer, Mike Schroepfer, apologized on Twitter for the disruption. He said the company was experiencing networking issues and working as fast as possible to restore service.

And there have been billionaires, there have been scientists, and now Captain Kirk is headed to space. Actor William Shatner, who played the popular Star Trek captain, is set to ride on a Blue Origin space flight next week, scheduled for October 12th. It'll be the 18th launch of Blue Origin's New Shepard spacecraft and comes months after its first fully-crewed mission carried the company's founder, Jeff Bezos, to the edge of space.

Okay, coming up, Apple isn't playing around when it comes to gaming. How did video game earnings become so important to the iPhone maker? We'll discuss after the break.

Earlier this month, a judge ruled that Apple was not a monopolist in the mobile gaming market. The decision stemmed from a lawsuit brought by Epic Games, the maker of Fortnite. Epic argued that Apple had an antitrust monopoly because it requires all third-party software downloaded on Apple mobile devices to come through its App Store. Apple then takes up to a 30% cut of sales in those third-party apps. The judge ordered Apple to make some changes to its App Store. Though overall, the decision was viewed by industry experts as mostly a win for the company, but the case shed light on how big gaming revenue has become for the maker of iPhones, iPads, and MacBooks. Our reporter, Tim Higgins, has been looking at what we learned from the case and how competitors are viewing Apple's dominance in this space. And he joins me now, hi Tim.

Tim Higgins: Hi.

Zoe Thomas: All right, if I'm a consumer of Apple products, why should I care that Apple makes so much money from gaming? We know Apple's a big company, why does this matter to me?

Tim Higgins: Well, if you're an Apple user, you might like the convenience of the App Store. Game developers, however, say that maybe there's a more efficient way, a cheaper way that they could do outside of Apple's system. Developers would say that these rules make it harder for them to perhaps be innovative or cut their cost to the user. Whereas Apple argues that they're providing an ecosystem that users want and are protected in, and that's kind of the rub.

Zoe Thomas: Tell me a little bit about how this historically built up, because you don't necessarily go from selling devices to selling software and gaming right away. How did they get here?

Tim Higgins: There's a history of Apple kind of evolving from a computer company to a personal tech company. The iPod really changed the world for Apple. It became a digital musical device company. It's a relationship with music. The labels really became very lucrative for Apple. So there's this kind of backstory of these other revenue streams. And as the iPhone came out, part of it was to keep that music business going, but with the development of the App Store and kind of the evolution of the app economy and really the boom in mobile gaming, Apple really has benefited from that.

What's remarkable about it is that of those more than billion iPhone users out there, really just a small percentage are into the gaming. If you look at the figures that came out from the Epic trial, just 6% of App Store gaming customers in 2017 accounted for 88% of the store's gaming billing for that year. An even smaller group were spending kind of the bulk of that money, which is remarkable. There's kind of a group of the biggest spenders on average who are spending almost \$2,700 a year on games in the App Store. And these whales, if you will, are very valuable to the video game makers, but also to Apple.

Zoe Thomas: When you're thinking about downloading a game, you're spending maybe a dollar on it, you're not necessarily spending a ton of money. So how does Apple go from making 30% of a dollar to making 8.5 billion dollars in revenue?

Tim Higgins: The economics of gaming really are about in-app purchases. And for most people, these games are free, in fact. What happens in a game is that there are other potential things you can do in the game, whether maybe it changes the look of the character or gives you advantages or opens up new kind of avenues of gaming, these in app purchases really are where the money is being generated. And it's kind of an interesting kind of dynamic here for a lot of these games that are free, initially free, really there's this push by the video game makers to kind of find those whales who are willing to spend more and more money.

Zoe Thomas: Is Apple itself doing anything to encourage more in app purchases or trying to get more gamers to use its devices so that it can get more sales from gaming?

Tim Higgins: Really, in a lot of ways, this is a passive income for Apple. Now, they would probably disagree with that because they would argue that what they're doing and the money they're capturing is fair because they're providing this ecosystem to the gaming companies, providing the technology behind the App Store and whatnot. They do help promote some of these games within the App Store. And you look at the phones each year as they're developed, there are some tweaks that appeal to the gaming community. The most recent iPhone, the iPhone 13 Pro, has improvements to the screen, the refresh rate is higher, so those people who are into gaming would probably notice kind of a smoother gaming experience in the screen, which is something that the gaming community pays attention to. So there's those kinds of things that help make the device more appealing for gamers.

Zoe Thomas: You know Tim, it's not just gaming developers though who are paying attention to Apple's dominance in the app market, regulators and lawmakers have also questioned how much control Apple has here. Do we expect they'll take any steps to address this?

Tim Higgins: Potentially, one of the most damning parts of the Epic lawsuit for Apple is just the attention that it's shown onto Apple's business, onto Apple's App Store, and to Apple's gaming profits. It's been long known that Apple's been doing well in regard to the App Store, but it's never been exactly clear exactly how well. Apple doesn't like to disclose that kind of information, it's tucked away in a broader services category. And what the Epic lawsuit did was turn up company records for the first time that kind of give a better window into its financial house. And some people will look at that and say that's a rather remarkable figure, the amount that they're generating from gaming, it surprises probably a lot of people just how much of that profit appears to be coming from the gaming sector.

Zoe Thomas: All right, stepping away from the US a little bit, I want to talk about China. It's a big market for gaming and also a lot of changes there could affect other game makers, but also Apple and its gaming revenue.

Tim Higgins: The most recent figures I have seen estimates that about 31% of the gaming money spent in Apple's App Store came from China, whereas 26% came from the US. And in China, mobile apps, mobile games are a big deal. And so the potential of the government there cracking down on young people, trying to limit the amount of time they spend on those games, could have dramatic ramifications for the entire industry. And since Apple is such a big player, it would in turn have a big effect for them.

Zoe Thomas: So this is a pretty quickly developing sector. There's changes happening in gaming as fast as the storylines in gaming. So what does that mean for Apple's future in this industry?

Tim Higgins: These details kind of underscore why we see Epic fighting so hard, but it also underscores why we see the likes of Facebook and Microsoft and others pushing back against Apple's kind of grip on the App Store economy. And you talk to people in the industry and observers, and there's a feeling that some of this fight is also being fueled by the fear of what's next. If Apple's rules continue to be the law of the land, there's worries that it'll carry over into the next generation of technology, whether it's augmented reality or virtual reality. These are the areas that big tech are preparing to play in next and rivals don't want to have Apple's rules carry over there. They would like to be able to get past Apple's tax, if you will.

Zoe Thomas: All right, that was our reporter, Tim Higgins. Thanks Tim.

Tim Higgins: Thank you.

Zoe Thomas: And that's it for today's Tech News Briefing. You can always find more tech stories on our website, [wsj.com](https://www.wsj.com). And if you like our show, please rate and review it. You can do that wherever you get your podcasts. I'm Zoe Thomas for the Wall Street Journal. Thanks for listening.

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Apple unveils iPhone 13, 13 Pro with upgraded camera

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Apple's new iPhone 13 and 13 Pro will be available for pre-order from September 17 onwards in India.

As anticipated, Apple on Tuesday (September 14) took the wraps off the new-generation iPhone 13 and 13 Pro series during the virtual event in Cupertino, US.

Apple iPhone 13 and the 13 Pro series retain most of the design language we see in the iPhone 12 series. The biggest improvement includes the small camera notch at the top centre. It is now 20 per cent slimmer than its predecessor.

Also, the iPhone 13 and the 13 mini now feature diagonally placed cameras on the back. The previous-generation models have vertically aligned camera modules.

On the front, they are protected with Ceramic Shield, sturdiest glass shield on any phone in the industry. The iPhone 13 and 13 mini feature aerospace-grade aluminium rail around the edges, and the iPhone 13, and the 13 Pro Max come with surgical-grade stainless steel frames.

All the iPhone 13 series mobiles support IP68 rating, meaning they can sustain water pressure up to 6 metres (around 19.68 feet) for close to 30 minutes.

Apple iPhone 13 and 13 mini come in 6.1-inch (2532x1170p at 460 ppi) and 5.4-inch (2340x1080p at 476 ppi) screen sizes and the iPhone 13 Pro and the 13 Pro Max sport 6.1-inch (2532x1170p at 460 ppi) and 6.7-inch (2778x1284p at 458 ppi) sizes, respectively. The new iPhone 13 Pro series. Credit: Apple

They feature Super Retina XDR OLED display with True Tone technology, Wide colour display (P3), Haptic Touch and 1,200 nits max brightness (HDR).

Apple iPhone 13 Pro and the 13 Pro Max also support ProMotion technology with adaptive refresh rates up to 120Hz.

Inside, all the four iPhone 13 series models feature an Apple A15 Bionic chipset with a new 6-core CPU with two performance and four efficiency cores and a new 16-core Neural Engine.

However, the iPhone 13 and 13 mini feature 4-core GPU, whereas the iPhone 13 Pro and 13 Pro Max have 5-core GPU. Key aspects of Apple A15 Bionic chipset. Credit: Apple

As far as the photography hardware is concerned, the iPhone 13 and the 13 mini come with Dual 12MP camera system (Wide: f/1.6 and Ultra-Wide: f/2.4) with Night mode, Deep Fusion, Sensor-shift optical image stabilisation, 2x optical zoom out, Digital zoom up to 5x, True Tone flash with Slow Sync, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Smart HDR 4 for photos and Photographic Styles.

On the other hand, the iPhone 13 Pro and the 13 Pro Max boast-- Pro 12MP camera system (Telephoto: f/2.8, Wide: f/1.5 and Ultra Wide: f/1.8), Night mode, Deep Fusion, Apple ProRAW, Sensor-shift optical image stabilisation, 3x optical zoom in, 2x optical zoom out; 6x optical zoom range, Digital zoom up to 15x, True Tone flash with Slow Sync, Night mode portraits, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Smart HDR 4 for photos, Photographic Styles. Additionally, thanks to better camera sensors on the Pro models, they support ProRes video recording up to 4K at 30 fps (1080p at 30 fps for 128GB storage). Key features of the iPhone 13 Pro models. Credit: Apple

"With new sensors and lenses for all three rear cameras, optimised to work seamlessly with iOS 15 and powered by the new image signal processor (ISP) in A15 Bionic for improved noise reduction and tone mapping, the iPhone 13 Pro lineup features the best camera system ever on iPhone. The all-new Wide camera has a larger sensor with 1.9 µm pixels, the largest ever on iPhone, for less noise and faster shutter speeds needed across lighting conditions, producing even more detailed photos," Apple said.

All four iPhone 13 series models support Cinematic mode for recording videos with shallow depth of field (1080p at 30 fps), 4K video recording at 24 fps, 25 fps, 30 fps or 60 fps, 1080p HD video recording at 25 fps, 30 fps or 60 fps, HDR video recording with Dolby Vision up to 4K at 60 fps, Sensor-shift optical image stabilisation for video, 2x optical zoom out, Digital zoom up to 3x, Audio zoom, QuickTake video, Slow-motion video support for 1080p at 120 fps or 240 fps, Night mode Time-lapse, Time-lapse video with stabilisation, and Stereo recording.

All four models feature the same 12MP (f/2.2) True Depth sensor, but the Pro models support ProRes video recording up to 4K at 30 fps (1080p at 30 fps for 128GB capacity).

The front camera of all the four iPhone 13 series models supports Retina Flash, Smart HDR 4 for photos, Photographic Styles, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Cinematic mode for recording videos with shallow depth of field (1080p at 30 fps), 4K video recording at 24 fps, 25 fps, 30 fps or 60 fps, HDR video recording with Dolby Vision up to 60 fps and more. Key features of Apple iPhone 13 and the 13 mini. Credit: Apple

All four models come with bigger cell capacity and promise to offer longer battery life than their respective predecessors. Apple iPhone 13 mini and the standard iPhone 13 will be able to deliver close to 17.5 hours and 19 hours of video playback, respectively.

On the other hand, the iPhone 13 Pro and the 13 Pro Max can offer up to 22 hours and 28 hours of video playback.

Like the new Apple Watch Series 7, iPad 9th gen and iPad mini 6th gen, the iPhone 13 series is made of environment-friendly materials. The Phone 13 is said to be designed to minimise its impact on the environment, including antenna lines that use upcycled plastic water bottles that have been chemically transformed into a stronger, high-performance material — an industry first. The new iPhone also uses 100 per cent recycled rare earth elements in magnets like those used in MagSafe, 100 per cent recycled tin in the solder of the main logic board and, for the first time, in the solder of the battery management unit. Both models also use 100 per cent recycled gold in the plating of the main logic board and the wire in the front camera and rear cameras. Redesigned packaging eliminates the outer plastic wrap, avoiding 600 metric tons of plastic and bringing Apple closer to its goal of completely removing plastic from all packaging by 2025. Apple iPhone 13 series and the retail box are made with environmentally friendly materials. Credit: Apple

Apple iPhone 13 series price and availability details

The new iPhone 13 Pro and iPhone 13 Pro Max will be available in graphite, gold, silver, and sierra blue in 128GB, 256GB, 512GB, and all-new 1TB storage options. Apple iPhone 13 Pro colour options. Credit: Apple

The iPhone 13 and iPhone 13 mini will be available in pink, blue, midnight, starlight, and (PRODUCT)RED in a new entry-level capacity of 128GB for double the storage, as well as 256GB and 512GB capacities.

Customers in India and 40 plus countries and regions will be able to pre-order iPhone 13 Pro and iPhone 13 Pro Max beginning at 5:30 pm IST on Friday, September 17, with availability beginning Friday, September 24.

Apple iPhone 13 Pro price starts at Rs 1,19,900 and the iPhone 13 Pro Max begins at Rs 1,29,900. The new iPhone 13 series colour options. Credit: Apple

The iPhone 13 price starts at Rs 79,900 and iPhone 13 mini base variant will be available for Rs 69,900.

Complete price details of Apple iPhone 13, 13 Pro series models: Models Storage Price Apple iPhone 13 Pro Max 1TB Rs 1,79,900 512GB Rs 1,59,900 256GB Rs 1,39,900 128GB Rs 1,29,900 Apple iPhone 13 Pro 1TB Rs 1,69,900 512GB Rs 1,49,900 256GB Rs 1,29,900 128GB Rs 1,19,900 Apple iPhone 13 512GB Rs 1,09,900 256GB Rs 89,900 128GB Rs 79,900 Apple iPhone 13 mini 512GB Rs 99,900 256GB Rs 79,900 128GB Rs 69,900

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Business

Apple under fire for making tens of billions from gamers that experts say have shown a 'red flag' for addiction to apps

Helen Cahill, Financial Mail On Sunday

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Apple is under fire for making tens of billions of pounds from gamers who appear to have become addicted to mobile phone apps.

Court documents show that **Apple** made a staggering 64 per cent of its **gaming** revenues from just one per cent of smartphone gamers in 2017. These gamers spent an average of \$2,694 (£1,985) annually.

Gambling experts said the figures were a 'red flag' and alleged that Apple is profiting from the kind of business tactics used by gambling firms. The figures emerged in a legal case over allegations that Apple has abused its power to take excessive commissions from third-party mobile phone apps.

US Judge Yvonne Gonzalez Rogers said: 'From what little evidence there is in the record, these consumers frankly appear to be engaging in impulse purchasing and both parties' profits from this sector are significant. The Court...notes it as an area worthy of attention.'

Betting giants have faced relentless criticism for targeting a small number of consumers who become addicts and end up spending more than they can afford.

Apple, run by chief executive officer Tim Cook, takes 30 per cent commission on all purchases in games downloaded from its App Store. It does not publish figures for revenues from the store, but data provider Sensor Tower estimated it made revenues of \$38.5billion in 2017. The court document revealed that gaming made up 76 per cent of App Store billings, or \$29billion, suggesting that high-spending gamers netted \$18.7billion for Apple in 2017.

Matt Zarb-Cousin, director of Clean Up Gambling, said: 'This is a business model where you need to find people who will become addicted, and get them to spend their money until they have spent it all.'

'There are very similar features that we see in gambling, with behavioural addiction, and creating the sort of products that are more immersive. Social gaming uses a lot of the same tactics that the gambling industry uses.'

The court documents revealed that Apple has specifically designed its platform to cater to customers who spend large amounts of money on gaming. The judgment said: 'The App Store is primarily a game store and secondarily an 'every other' app store.'

Dr Rachael Kent, an expert in the digital economy and a lecturer at King's College London, said: 'That is a huge sum for one person to be spending each year.'

'It is quite shocking, and it tells you that this is a regular practice. It is a red flag. With the figure being so high, it definitely raises concerns around gambling, addiction and compulsions.'

Gambling giants face tough new regulation in the Government's Gambling Act. Children's charities are particularly concerned that gaming apps – which do not require age verification – can be dangerous for children.

Barnardo's co-chief executive, Lynn Perry MBE, said: 'It cannot be right that some children are at risk of spending hundreds of pounds while gaming. There is a need to curb techniques that reward children for spending more and more time and money on gaming platforms, increasing the risk of addiction and related mental health problems.'

Apple did not respond to a request for comment.

Apple Doesn't Make Videogames. But It's the Hottest Player in Gaming.

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Apple Inc. doesn't make hot videogames such as "Fortnite," or consoles such as the Xbox. But with little fanfare, Chief Executive Tim Cook has turned the maker of the iPhone into one of the world's largest videogame companies.

The key is the App Store, its digital marketplace, where the company sells and distributes thousands of games by other companies and developers, from Epic Games Inc.'s "Fortnite" to Tencent Holdings Ltd.'s "Honor of Kings"—and takes a 30% cut of sales. That explains a lot about the tech giant's current battles with rivals.

Apple raked in more profits from games than Xbox maker Microsoft Corp., gaming giants Nintendo Co. and Activision Blizzard Inc. and PlayStation maker Sony Corp.—combined—in its fiscal year 2019, according to a Wall Street Journal analysis of figures released as part of the company's recent antitrust trial.

Apple's operating profits from games that year totaled \$8.5 billion, according to the Journal analysis, exceeding the other four companies' combined gaming operating incomes in the same period. The tech giant said operating margins discussed during the trial were flawed and as a result are too high.

Apple's dominance, however, is under threat. Its position as the gatekeeper to the gaming economy places it at odds with Facebook Inc., Microsoft and "Fortnite" maker Epic Games Inc. as each company prepares for the next frontier in technology: virtual reality.

Many digital activities—from search to social to shopping to live events—could take place inside of games in the coming years. Industry global revenue from videogames is expected to almost double to \$198 billion in 2024 compared with 2016, according to estimates by technology consulting firm Activate Inc. The biggest chunk of that growth is from mobile games, which Activate predicts will generate \$103 billion in 2024.

The risk for Apple is that its role as the gatekeeper between the gaming world and its more than 1 billion iPhone users as well as the fee it collects as the middleman could be disrupted—whether by legislation, court order or regulatory action. Epic sued the company in 2020, alleging that it stifled competition. Because of Epic's lawsuit and increased scrutiny of Apple's sway, lawmakers and regulators from Washington to Brussels are considering ways to potentially upend the company's power, which some fear hurts rivals.

Another threat to Apple's profit engine comes from China. New rules in that country aim to decrease the number of hours young people can play games. Three of the top five grossing mobile games in the App Store are from China, including the No. 1 title "Honor of Kings" from Tencent, which generated an estimated \$2.5 billion last year from users, according to analytics firm Sensor Tower.

Globally, customers spent a total of \$45 billion on mobile games through the App Store in fiscal 2020, according to Sensor Tower. Almost 31% of that money was spent in China while 26% was in the U.S.; Apple's cut came out to an estimated \$13.5 billion or about 5% of Apple's overall sales that year of \$275 billion. Fifty percent of Apple's revenue came from hardware sales of iPhones.

Apple doesn't break out revenue from the App Store; instead it includes the business as part of its services category, which it said generated \$53.8 billion in sales last year. That category also includes music, iCloud, Apple TV, advertising and extended warranties. It doesn't say how profitable each of its product categories is but disclosed an overall company operating profit of \$66.29 billion during the period.

That such a large part of Apple's business comes from the gaming world is almost a fluke. After releasing the iPhone in 2007 and seeing developers hack their gadgets, it designed the App Store so users could download third-party software to their phones under Apple's control. Apple's late co-founder Steve Jobs and his team came to realize that the store could be a new gold mine.

In 2008, the year the App Store launched, it had 500 apps, many of them games. Apple's profits from gaming got bigger as the app economy expanded. The shift became even more important under Mr. Cook as he looked to combat stagnating iPhone sales.

In a nod to how important hard-core gamers are to the company now, Apple introduced its new iPhone 13 Pro last month with upgrades to the screen aimed at giving a smoother video experience. The feature is particularly attractive to those who use it for gaming.

Apple is appealing to a rather small group. Just 6% of App Store game customers in 2017 accounted for 88% of all the store's game billings for the year, according to court records. On average they spent more than \$750 annually. The biggest spenders, who made up 1% of Apple gamers, generated 64% of billings and spent on average \$2,694 annually.

Blockbusters include "Honor of Kings," which allows users to battle as historical Chinese characters and was the top grossing game last year in the App Store, according to Sensor Tower. Other top money generators are "Pokémon Go," an augmented reality game based on the popular Japanese anime, and "Candy Crush Saga," a puzzle game where users match clusters of jelly beans and gumdrops.

Bri Thomas, a 38-year-old human resources professional from Dallas, likely fits into the medium-high category of spenders who accounted for 3% of gamers and generated 20% of billings in 2017. On average that group spent about \$373 each year.

She said she typically spends as much as \$50 each month. The convenience of having the iPhone in her pocket means it is easy to spend money to access special perks in mobiles games such as "Empires & Puzzles," a puzzle game.

"It's very convenient," Ms. Thomas said. "You can get carried away really easily."

By Mr. Cook's own admission, he is not a gamer. He said so during an appearance before a judge in the antitrust case that consumed Apple's attention for much of the past year.

In August 2020, "Fortnite" maker Epic filed a lawsuit against Apple claiming the company held an improper monopoly over distribution of software on its mobile devices and forced developers to use its in-app purchasing system. They went to trial in May.

Apple vehemently denied the claims, pointing to everything from Google devices to the Xbox as alternative ways for users to play games and arguing that its fees were in line with the industry and fair. U.S. District Judge Yvonne Gonzalez Rogers mostly agreed with Apple in an early-September ruling.

That doesn't mean Apple is out of danger. The judge ordered the tech giant to let developers inside their apps advertise alternative, cheaper payment methods that exist outside of Apple's App Store. That raises the possibility that game developers could deny Apple money for those games.

The case lifted the veil on Apple's gaming business. The company, which has long prized secrecy as it seeks to draw users to new products and services, keeps under wraps the extent to which gaming is at the center of its profits and business.

Apple said records introduced during the trial purportedly showing profitability of the digital store weren't correct, and Mr. Cook testified in court that the company doesn't do such analysis. But Judge Gonzalez Rogers, who reviewed Apple's records under seal, contradicted this assessment.

She wrote that Epic's claims that Apple generated operating margins of more than 75% from the App Store are, in fact, correct and characterized them as "extraordinarily high."

App sales may be small in comparison with overall revenue but court documents suggest they are almost pure profit for Apple. As part of the legal battle, Apple handed over millions of internal documents to Epic. Using those materials, an expert witness for Epic named Ned Barnes, a forensic accountant, calculated that Apple's App Store generated a 79.6% operating margin—a measure of profitability that subtracts costs from revenue—during both the 2018 and 2019 fiscal years.

The late discovery of an internal report sent to Mr. Cook supported that assessment. The report, according to court records, included the company's own calculations for the store's operating margin of 74.9% and 77.8% for fiscal 2018 and 2019, respectively.

"Mr. Barnes made appropriate adjustments based on sound economic principles to reach his conclusions," the judge wrote. "Apple's protestations to the contrary, notwithstanding the evidence, shows that Apple has calculated a fully burdened operating margin for the App Store as part of their normal business operations."

Another view of how much Apple collects from its App Store—and gaming—comes from Sensor Tower, the analytics firm. It estimated that Apple received \$15.9 billion in revenue from the App Store in fiscal 2019, with 69% of that amount coming from games. Using Apple's operating margin calculation described in court records, the company's App Store had an implied operating profit of \$12.3 billion that year—or nearly one out of five dollars of the company's overall operating profit.

Gaming alone would have earned \$8.5 billion, according to a Journal analysis. That is \$2 billion more than the operating profit generated in the sector during the equivalent 12-month period from gaming giants Sony, Activision, Nintendo and Microsoft, according to company filings from the first three and an analyst estimate for Microsoft.

3 Oct 2021 04:50 ET Apple Doesn't Make Videogames. But -2-

Apple said Friday the disputed operating margins come from an analysis that doesn't include many joint costs for the App Store and results in margins that it describes as being too high because it includes all revenue but only a fraction of the costs. During the trial, Apple vehemently denied the accuracy and during public court testimony Mr. Cook took issue with the margins as well.

Under questioning from Apple's lawyer, he said the company had never tried to determine the specific profitability of the App Store as a stand-alone business and that he couldn't put an exact figure on how profitable it might be. The practice of not tracking business-unit profitability, he said, dated back to a desire by Mr. Jobs to encourage cooperation across the company's various units. The internal document that calculated operating margin, which wasn't made public, was a "one-off presentation," he said.

Nevertheless, Mr. Cook said he believed the App Store was profitable even without calculating it. "We haven't done that, but, you know, I have a feel—if you will," Mr. Cook said. While being questioned by the judge, Mr. Cook said a majority of App Store revenue came from games.

The judge ruled that Apple wasn't a monopoly in part because the mobile gaming market is evolving so quickly, including the nascent streaming game services. Similar to how Netflix Inc. offers movies, Microsoft, chip maker Nvidia Corp. and others are pushing subscription game services that could be accessed on iPhones through websites. That allows them to bypass the App Store.

As for Apple's gaming economy, it is unclear what happens next. Epic plans to appeal the judge's ruling, and some legal observers said Apple will appeal the order to stop prohibiting developers from communicating cheaper alternatives to the App Store. The company said it is reviewing the matter.

—Sarah E. Needleman contributed to this article.

Write to Tim Higgins at Tim.Higgins@WSJ.com and Sarah E. Needleman at sarah.needleman@wsj.com

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FINANCIAL REVIEW

Apple's new iPad shows it's possible to be too perfect

John Davidson

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Apple probably had someone other than me in mind when it designed the new iPad mini. Someone with more creative talent than I possess. Someone cooler, who scripts, scores, shoots, directs and stars in their own movies in their spare time, when they're not sketching, gaming, painting or doing incredible things with augmented reality.

I mean, have you seen the ads? Everyone in an Apple ad is amazing, the perfect version of themselves. They're nothing like me.

I use the iPad mini for unexciting things, like reading old crime fiction (it's the perfect size for reading novels), for jotting down work-related notes (I wrote much of the first draft of this review on it, using the Apple Pencil), and as a second screen for my iMac, to keep an eye on workplace messages (which is what I am using it for now, as I type up this review on the Mac).

(For the record, the iPad mini's 8.3-inch screen - up from 7.9 inches in the previous model - is way too small to use as a second display, but I needed a third item on that list, so I'm using it as a second display regardless. Using the iPad mini for only two things seemed like such a waste of this quite exquisite device.)

But it's nice to know that, should I get struck by a bus and miraculously emerge from the coma with creative superpowers, the new Apple iPad mini will be right there with me, keeping up, urging me on to even greater awesomeness.

Have you seen the processor in this thing? It's more or less the same, insanely powerful A15 Bionic processor that's in the iPhone 13, albeit with a slightly lower maximum speed, but not so much slower you'd notice in real life. (Just so you know, the iPad mini's chip maxes out at 2.93 GHz, compared to 3.23 GHz on the iPhone 13.)

One of my favourite laptops, the new Microsoft Surface Laptop 4 running the powerful AMD Ryzen 7 processor, scores dramatically lower than the iPad mini in benchmark tests, and that's a full-blown laptop computer I happily use for all sorts of power-intensive tasks.

So, yes, the new processor in the iPad mini is an absolute beast, a gazillion times more powerful than I need for reading fiction and jotting down handwritten notes. But it's nice to know it's there, idling, waiting for me to be hit by that bus.

Sometimes, though, I do wish Apple products weren't quite so aspirational, and that Apple had prosaic people like me in mind, too, when it designed its stuff.

That Apple Pencil I've been writing with on the iPad mini, it's got a very hard nib on it, which I'm sure is just the thing for architects design entire cities, or something. But for people like me, who just want to use it to jot down boring notes while we're taping a boring meeting or interview, the nib is much too hard.

Tape recordings I've done on the iPad mini have loud "tap tap tap" sounds in them, like a bird tapped on a window every time I jotted down a note, rendering it useless for an application it would otherwise be perfect for.

I mean, it's the absolute perfect size and weight to be used as a digital notepad, and people I'm interviewing would look at me and my Apple iPad mini and my Apple Pencil and think, gosh, this man is groovy.

Instead, I find myself using Samsung's pen-capable devices, such as the [Galaxy Tab S7+](#) or the [new Galaxy Z Fold3](#), which all have pens with soft nibs that allow you to record and take notes at the same time.

I know it's a lot to ask, but wouldn't it be nice if Apple were just a little daggier, a little more like Samsung from time to time?

Still, it's nice to know that if I ever learn to draw, the rock-hard nib will be there, ready for me to excel.

Another thing that's nice to know about the iPad mini is how environmentally sound it is. The gorgeous shell is made from 100 per cent recycled aluminium, the solder holding its electrical bits together is made from 100 per cent recycled tin, and its various magnets are made from 100 per cent recycled rare earth elements.

You could happily buy a new iPad mini every few years, when the battery gives out, and know you're doing your bit for the future of the planet.

But I can't help but wonder, wouldn't it be even better if you didn't have to throw out the mini and buy a new one once the battery gives out?

We didn't pull it apart to find out for sure, but given how similar it is to last year's [iPad Air, which people have pulled apart](#), it's possible the mini may be held together internally with glue rather than screws and clips, which would make it very difficult to repair or fit a new battery into.

(iFixit, a company that specialises in tearing down devices to see how easily they can be repaired, scored the latest iPad Air a mere 2 out of 10 for repairability. We'll be interested to see how well the iPad mini does, given how much more environmentally aware Apple is getting with every passing year. Maybe this year they'll get a 3 out of 10?)

Now, Apple isn't alone in deliberately designing devices to be easier to throw out than repair - just about every gadget maker does it - but it seems to me repairability is an especially important issue with the iPad mini, given how powerful it is.

Someone as lacking in grooviness as I am could use it for a decade or more, and never reach the end of its capabilities. Not until the bus miracle, at any rate. But, really, what are the odds of that happening?

Apple iPad mini Likes Incredibly powerful and versatile Dislikes Expensive Price From \$749 for the Wi-Fi-only model. From \$979 for Wi-Fi plus 4G. Apple Pencil is an additional \$199.

Document AFNROL0020210930eh9u0015y

The Telegraph

Technology

Facebook aims to take a bite out of Apple's iPhone

By James Titcomb

1,315 words

26 September 2021

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The Telegraph Online

TELUK

English

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Hardware chief Andrew Bosworth wants to usurp **Apple's** best-selling smartphone and claims **virtual reality** is the future

In 2017, Andrew Bosworth found himself in a new job. After over a decade at Facebook and stints in charge of key areas such as the news feed and advertising, the company veteran was shuttled off to manage the company's nascent hardware business.

Bosworth – known internally as “Boz” – had become one of Facebook's most outspoken defenders as it found itself increasingly on the back foot. A year earlier he had written a controversial internal memo titled “The Ugly” appearing to argue that Facebook should pursue growth at all costs, [even when it is used to carry out a terrorist attack](#). He had challenged critics of the company head-on in unscripted Twitter exchanges.

So putting [Bosworth](#) in charge of what was at the time a relatively small venture – Facebook's sole gadget was its Oculus virtual reality headset, sales of which were meagre – might have been seen as a reshuffle to get ahead of a rapidly escalating PR crisis.

The company's problems tackling fake news, mental health issues and violence were becoming more apparent, and the Cambridge Analytica scandal was around the corner. Facebook wanted political operatives [like Sir Nick Clegg](#) to tell its story, not engineers. But four years later, Bosworth – who has said that his explosive memo was merely to encourage debate – is at the forefront of the social networking giant's efforts to reinvent himself.

Today, Facebook sells millions of [Oculus virtual reality headsets](#) and Portal video calling screens, with sales boosted by the pandemic. It is developing augmented reality goggles that project holographic images into the wearer's field of vision, and wristbands that read nerve signals from the brain. This month it unveiled sunglasses that record video.

Last week, Bosworth was promoted to Facebook's chief technology officer. The move was seen as a signal that the company is now done making amends for its mistakes, and is focusing on its next act: replacing the iPhone.

“We're running into the limits of what these devices are,” Bosworth tells The Telegraph, brandishing his mobile phone. “In the last decade, if you want to connect people in new and exciting ways, the phone was the way to do it. [Today] the phone that you have in your pocket is similar to the one you had three or four years ago. There isn't a new way that you're connecting with people.”

Bosworth's point is reinforced by the timing of the conversation: a few hours after Apple has [unveiled a new line of iPhones filled with marginal upgrades](#).

Facebook Reality Labs – the official name of the company's efforts in hardware and virtual reality – are dwarfed in revenue terms by the company's giant advertising division. But it employs around 10,000 people, a fifth of its workforce, and is increasingly the subject of Zuckerberg's attention.

It is easy to see why. Facebook has faced a seemingly never ending string of scandals, most recently a leak showing the company knew about the harmful effects on young users (Bosworth declined to comment on the reports, insisting it was not his area of expertise). But it is a rising force in hardware.

Its Portal video calling device was widely mocked when released in 2018, but sold out at the start of the pandemic. Sales of VR headsets tripled early this year, with Facebook's Oculus taking three quarters of the market.

"We're past the inflection point of VR," Bosworth insists. "People who have critiques probably haven't spent much time in the modern ecosystem."

The 39-year-old says phones, like computers before them, will continue to be widely used, but that their limitations are being exposed.

"The phone will continue to be a tremendously useful device. But because it's a general purpose device, it can't do some things better without being worse than other things.

"In VR, in augmented reality, we're talking about the idea that you can have people that you're co-present with, who are not physically with you, but you're all having a shared experience. Those things aren't possible with a phone."

Not surprisingly, usurping the iPhone would not be popular among Facebook's Silicon Valley neighbour. [Apple and Facebook have become mortal enemies in recent years](#). Tim Cook has used Facebook's privacy scandals as a way to reinforce his company's credentials, and introduced software updates that have hit the social network's advertising revenues. Zuckerberg said this year the company was now its biggest competitor.

But Facebook's push into hardware is not merely an effort to hit the iPhone maker where it hurts. Zuckerberg sees it as crucial to owning the "metaverse", a term that has become increasingly fashionable among the Silicon Valley cognoscenti to refer to virtual worlds.

Bosworth is one of Zuckerberg's key lieutenants in delivering that mission. Two years ahead of the Facebook founder when both were at Harvard, he helped teach an artificial intelligence class that Zuckerberg attended. He joined in 2006, two years after Facebook was founded.

But why should Facebook be entrusted with creating the next big thing after the smartphone? Many regulators consider it to be too powerful as it is, and it suffers from a trust deficit in some quarters.

"We are relatively unique among the tech set, in that our focus is connecting people," Bosworth says. "We're one of the most popular products in the history of the world. I don't think it's entirely surprising that we're eager to find more and better ways to help those billions of people connect."

To that end, Bosworth is committed to the company's devices being mass market, in contrast to Apple's efforts to target the most lucrative consumers. "Every time you increase price, you decrease reach, and it becomes inaccessible to people," he says.

Facebook will want to see an eventual return somewhere, however. Bosworth was the architect of the company's emergency mission to make money from mobile adverts after its stumbling stock market debut in 2012. He cancelled a six-month sabbatical to help bring investors back on side.

Does that mean a dystopic metaverse stuffed with unskippable commercials beamed into users' eyeballs? Bosworth bristles at the suggestion.

"No one's proposed that, and I'm a little annoyed you would suggest that anyone had," he counters. "Facebook's business advertising is something I'm very proud of. The ads on Facebook are tremendously high quality ... certainly relative to ads I get any place else on the internet."

Advertising, it seems, will be at least one way to monetise the metaverse. "It certainly plays a role. I don't know what role it's going to play. It's way too early to say that."

Facebook's journey to displace the iPhone faces perhaps its sternest test yet with the recent release of its camera-equipped £300 sunglasses. As well as a potential stepping stone to more advanced shades, its purpose, at least partly, is to move the Overton window; to make hi-tech glasses a little closer to acceptable attire. "I don't know of a better way to learn about what society wants than to give it a product and have [people] use it or not use it," Bosworth says.

The device did not get off to a perfect start, when reviewers observed its dim warning light meant subjects were often unaware they were being filmed. Bosworth says the company welcomes the feedback, adding: "We feel good about our answers. That's where the scrutiny should be."

The critics, however, much like the next smartphone-sized revolution, are not yet under Facebook's control.

Document TELUK00020210926eh9q0012y

WE07

Australia's Commonwealth Bank mocks Apple's 'pro-competition' claim

Reuters

504 words

24 September 2021

Global Times

GLOTNE

WE07

English

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An **Apple** store in Sydney, Australia. Photo: CFPCommonwealth Bank of Australia accused **Apple** Inc on Thursday of uncompetitive behaviour over control of payments on its phones, which have grown to about a third of all in-person payments the country's largest lender processes.

Matt Comyn, chief executive at the Sydney-based bank, urged lawmakers to boost scrutiny of technology giants, saying payments through **digital wallets** developed by **Apple** and Alphabet's Google made up about 45 percent of all physical consumer payments, as distinct from other payments such as online or direct debits.

"The ... claim that Apple is pro-competition, I think, is a fair statement, as long as one accepts that competition is welcome as long as no one can compete with Apple," Comyn told a regular parliamentary committee.

The bank has been calling for Apple to free up the Near Field Communication (NFC) chip on its phones for the use of banks' own apps, estimating the US firm captures 80 percent of all contactless transactions done through smartphones and smartwatches.

Contactless payments are growing fast in Australia, fuelled by the COVID-19 pandemic and mobile payment services such as Apple Pay, and Comyn estimated customers tap more than 90 percent of their transactions.

Apple, which requires banks to process all contactless payments through its digital wallet and pay an undisclosed fee, declined to comment when contacted by Reuters.

"It is analogous to imagine a world today where, on your Apple phone, the only person that could determine which carrier you used is Apple," Comyn said.

Shayne Elliott, chief executive of fourth-biggest lender Australia and New Zealand Banking Group, which was the first in the country to link Apple Pay with credit cards, said it had not been focused on the issue up "until that particular complaint".

"It's kind of ironic, one of Australia's biggest companies complaining about having to deal with other big competitors," Elliott told the parliamentary committee.

Last month, Apple told a senate inquiry its payments app was "pro-competitive", and accused companies urging further scrutiny of its products of doing so "for their own commercial gain".

The inquiry findings have not been published.

Australian Competition and Consumer Commission (ACCC), which has been reviewing whether Apple breached competition laws, declined to comment on Thursday.

Its chief, Rod Sims, told the Australian Financial Review newspaper last week that the issue was complex and the anti-trust agency was "going into this with an open mind".

Unlike Apple, search giant Google allows banks and other third parties to access its NFC chip.

The inquiry comes amid intensifying scrutiny from global regulators over Apple and Google's dominance in the mobile market.

South Korea approved a bill last month that bans major app store operators, including Apple, from forcing software developers to use their payment systems.

In Germany, lawmakers in 2019 moved to force Apple to open its mobile payments system to rivals for a reasonable fee.

Document GLOTNE0020210924eh9o00002

Technology

Apple vs Epic Games: Is Epic Games really winning? Apple refuses to reinstate Fortnite on iOS until final verdict

Bulbul Dhawan

1,116 words

23 September 2021

Financial Express Online

FIEXON

English

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Apple vs Epic Games: The legal battle between Fortnite developer Epic Games and tech giant **Apple** reached somewhat of an intermission earlier this month when a District Federal Judge ordered **Apple** to give players an additional option to exit the **gaming** ecosystem to purchase digital tokens in a game. This technically should have counted as a win in Epic's books, but it did not, and it has expressed its intentions to appeal to the High Court for the part of the lawsuit that it lost. Even though the High Court has not yet agreed to hear Epic's appeal, it seems to be in the process. Meanwhile, **Apple** has, in a series of apparent emails, told Epic that its developer account will not be reinstated on the App Store until the lawsuit and its appeal process is over, even though it could take years to reach that stage.

Also read | **Apple** vs Epic Games: In Federal Judge's ruling in antitrust case, iPhone maker loses but wins

Epic Games CEO and Founder Tim Sweeney has shared emails from Apple on his Twitter account stating that Apple has refused to bring back Fortnite to App Store until the "the district court's judgment becomes final and non-appealable". This means that till the time both or either of the parties have the chance to appeal the decision, iOS users will not be able to play Fortnite on their Apple device.

<https://platform.twitter.com/widgets.js>

Epic has termed this move as Apple going back on its word. Sweeney wrote, "Apple lied. Apple spent a year telling the world, the court, and the press they'd 'welcome Epic's return to the App Store if they agree to play by the same rules as everyone else'."

Meanwhile, in the mail, Cupertino wrote that it exercised its discretion to not reinstate the developer's account for now. It also cited the judgement issued by Federal Judge Yvonne Gonzalez Rogers, in which she said that Apple had acted within its right to terminate Epic-related accounts after Epic intentionally violated the contract it had with Cupertino.

The Judge had also ordered Epic to pay damages to Apple for willful breach of contract, which Epic has done.

In a gist, as per Apple's App Store policy, app developers can only use the App Store payment gateway for any digital tokens that are sold in apps, and on any transaction Cupertino has the right to charge 30% commission. However, Epic Games found this policy to be anticompetitive and so, breached the contract and added a third-party payment gateway in Fortnite for digital goods. Apple then removed Fortnite from the App Store and blocked the developer accounts of Epic Games, following which the developer filed an antitrust lawsuit against the tech giant.

Earlier this month, in a ruling, the District Court Judge ruled that Apple's policy of only using App Store gateway was preventing customers from getting cheaper prices, and therefore, directed Apple to allow for an option where customers could either choose the App Store Payment Gateway for purchasing or they could leave the ecosystem and purchase the digital goods directly the developers on the web. While this could be a major blow to Apple as it could cost a major chunk of the revenue it gets from App Store, it would still count as a win for Apple, since the Judge also ruled that Apple could continue to charge 30% commission on the transactions that take place via the App Store payment gateway.

Epic has not been happy with the verdict, and has therefore expressed intentions of appealing the decision. On the other hand, while it may seem like Apple lost the verdict, if it were something that Apple was really bothered about, it would no doubt appeal the decision. However, the way things currently stand, Cupertino has said that it is still considering the appeal options, but at the same time, once the District Judge verdict came through, CEO Tim Cook told his employees that he was looking forward to moving forward after the ruling.

That is seemingly the best option for Apple, because other than the order to tweak its App Store policy and incorporate a third party payment option via the web, Apple has won on all counts that Epic had filed,

including the judgement that Apple was not a monopoly and therefore, did not need to allow third-party app stores to run on its devices. As far as the third-party payment gateway option is concerned, at this stage, it is understood that that would be routed through the web, and if a consumer were to purchase digital goods in the game, they would get the option to either purchase it via the App Store (the way it currently works), or leave the game ecosystem to go to the web and purchase the token directly from the developer. The latter, frankly, seems tedious and unappealing, and is therefore not very likely to be popular among customers. This means that Apple might not suffer a major revenue loss after all.

With a verdict this good and this favourable, it would not make sense at all for Apple to appeal it, unless Cupertino is looking to really take on Epic for trying to malign the tech giant's image. Still, even for Apple, that seems like too big of a gamble to go for. It is not very likely that Apple will file an appeal.

While Apple has not commented on Sweeney's remarks on Twitter, it has not disputed the authenticity of the documents that the Epic Games CEO shared on the microblogging site.

With this, Epic's aim to bring back to iOS App Store in South Korea seems to have failed. The developer was looking at the South Korean market because the country recently passed rules as per which alternate payment method support is required. But Apple's move has also left the future of Fortnite elsewhere in the world, as without an active developer account, Epic would not be able to re-release the game anywhere.

However, Sweeney's move to share emails is not likely to make its relations with Apple any better, and would only keep Fortnite off of iOS devices, much to the frustration of Apple-using fans of Fortnite. Epic is at the back foot for now with the ruling and among its fans, and the appeal is a gamble for the developer. However, Sweeney is still going to "fight on" in his own words.

Document FIEXON0020210924eh9n00012

Science

Apple's VR headset is set to go on sale in fall of 2022 with estimated \$2K price tag while Apple Glasses won't be available until 2023

Chris Ciaccia For Dailymail.Com

607 words

22 September 2021

21:02

Mail Online

DAMONL

English

Copyright 2021

* **Apple's** oft-rumored **virtual reality** headset could be released in the second half of 2022 and cost as much as \$2,000

* The headset has already completed the second part of prototype testing

* It may contain a camera, laser optical sensor, weigh around 100 grams and be powered by a 5-nanometer chip

* The headset would be geared towards developers and business customers

* A more consumer focused product, Apple Glass, is not expected to be released until 2023 at the earliest

Apple's oft-rumored virtual reality headset could be released as soon as the second half of next year and cost as much \$2,000, according to a new report.

The headset has already completed the second part of prototype testing and could be 'mass-produced' in the second-quarter of 2022, with a release in the second half of the year, [Digitimes reported](#), citing supply chain sources.

Cupertino, California-based Apple has traditionally unveiled its new iPhones and Apple Watches in the fall.

It's possible the tech giant could introduce the headset in a similar timeframe.

The upcoming headset would likely not be aimed at consumers, but instead be geared towards developers and business customers.

A more consumer focused product, known as Apple Glass, is not expected to be released until 2023 at the earliest.

The report notes the device may contain a camera, an laser optical sensor, may also weigh around 100 grams and have a 5-nanometer chip.

For comparison purposes, Google Glass Enterprise Edition weighs 46 grams without a frame and Apple's latest iPhone, the iPhone 13, uses a 5-nanometer chip, the A15 Bionic.

In addition, the news outlet reported the device will connect to an iPhone via Bluetooth and its frame would be made of magnesium alloy material.

Previous reports have suggested that the device would need to be connected wireless to a Mac or iPhone, but that it would also feature augmented reality capabilities.

Apple has not yet responded to a request for comment from DailyMail.com.

Earlier this month, it was reported the headset's AR feature will overlay computer-generated images onto the user's view of the real world, enhancing games and educational programs.

The VR feature fully immerses the user in a simulated environment.

In June, TF International Securities analyst Ming-Chi Kuo said a head-mounted display, used for both VR and AR, would ship in the first part of next year.

In an interview discussing the iPhone 13, Apple CEO Tim Cook, who has praised AR in the past, said he is the technology's 'number one fan.'

'I think AR is one of these very few profound technologies that we will look back on one day and went, how did we live our lives without it?' Cook [told](#) Justine Ezarik.

He added that right now, the technology is used for education, collaboration and buying furniture, but there would be more uses to come.

A 2019 patent application from Apple suggests the firm is considering technology described as a 'Display Device' that uses a 'reflective holographic combiner.'

This holographic technology could more seamlessly blend objects rendered in the headset's display, increasing the depth-of-field and reducing the resulting eyestrain and nausea often associated with AR and VR.

The aforementioned headset is expected to be a segue to Apple's eventual augmented reality glasses, known simply as Apple Glass, which will be released after the aforementioned headset.

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Tech

Fortnite to be 'blacklisted' from App Store until legal battle with Apple subsides, Epic Games CEO says

Jay Cannon

523 words

22 September 2021

USA Today Online

USATONL

English

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The CEO and founder of Epic Games says Fortnite will continue to be "blacklisted" from Apple's App Store, the latest in a push-and-shove between the gaming company and the tech giant.

Epic Games, creator of the immensely popular battle royale video game Fortnite, will continue to be barred from the App Store until the conclusion of the appeals process in the company's lawsuit against Apple, according to emails released on Epic Games CEO and founder Tim Sweeney's Twitter account.

Sweeney said that could mean a ban as long as five years.

"Apple spent a year telling the world, the court, and the press they'd 'welcome Epic's return to the App Store if they agree to play by the same rules as everyone else,'" Sweeney said in a tweet. "Epic agreed, and now Apple has reneged in another abuse of its monopoly power over a billion users."

Apple said Epic Games committed a breach of contract and trust when it implemented an option for app-related purchases outside of Apple's system, shows an email released by Sweeney from what appears to be an Apple representative.

"Apple has exercised its discretion not to reinstate Epic's developer program account at this time," the message says.

Representatives from Apple declined comment to USA TODAY.

"We'll fight on. The need for regulatory and legislative action is clearer than ever before," Sweeney tweeted.

Apple vs. Epic verdict: Apple must allow for app payments outside its App Store, judge rules

Previously: Epic Games appeals ruling in its lawsuit against Apple

Epic Games filed suit against Apple when the tech giant pulled Fortnite from its App Store in 2020 after Epic added an option for players to directly pay them for in-app purchases without going through Apple's ecosystem.

Earlier this month, a federal judge said Apple must let developers use payment options that funnel consumers out of the tech giant's App Store ecosystem, which bypasses Apple's 30% commission on most app transactions.

The ruling said Apple will not be allowed to prevent "developers from including in their apps and their metadata buttons, external links, or other calls to action that direct customers to purchasing mechanisms, in addition to In-App Purchasing."

Epic appealed the ruling after U.S. District Judge Yvonne Gonzalez Rogers rejected the company's allegations that Apple ran a monopoly.

Despite the judge ruling in Epic's favor on App Store payment procedures, Sweeney said the ruling was not a "win" for developers or for consumers.

"Epic is fighting for fair competition among in-app payment methods and app stores for a billion consumers," Sweeney said after the ruling.

Contributing: Brett Molina, USA TODAY

Tech: Ahead of Windows 11, Microsoft unveils new Surface Pro devices, Surface Laptop

TikTok challenge: 'Devious licks' challenge leads to criminal charges against students across US

This article originally appeared on USA TODAY: Fortnite to be 'blacklisted' from App Store until legal battle with Apple subsides, Epic Games CEO says

Document USATONL020210922eh9m0018i

Emmys 2021 Kicks Off; Early Wins for 'Ted Lasso,' 'The Crown' -- 5th Update

By John Jurgensen

644 words

20 September 2021

08:07

Dow Jones Institutional News

DJDN

English

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"Ted Lasso," "The Crown," and "Mare of Easttown" claimed victories at the 73rd Emmy Awards on Sunday at a scaled-down in-person ceremony that still seemed like a lively upgrade from last year's **virtual event**.

Jason Sudeikis won the prize for best actor in a comedy for "Ted Lasso." The **Apple** TV+ series went into the night heavily favored in the comedy categories. It promptly snagged the first two awards handed out, with Hannah Waddingham and Brett Goldstein winning for their supporting roles.

In the drama categories, Netflix's "The Crown" leapt out to an early lead with wins for supporting actress Gillian Anderson, who played Margaret Thatcher; supporting actor Tobias Menzies, who played Prince Philip; and director Jessica Hobbs and writer Peter Morgan.

Kate Winslet won the award for best actress in a limited series for her role in "Mare of Easttown" on HBO. HBO, which has taken home the Emmy for best limited series six times in the past 10 years, landed two early wins for "Mare of Easttown." Julianne Nicholson and Evan Peters both won for their supporting roles in the hit crime drama.

Michaela Coel, the creator of HBO's "I May Destroy You," a kaleidoscopic sexual assault drama, accepted the award for writing in a limited series and directed her message at fellow writers, saying, "Write the tales that scare you."

In the first year of eligibility for its original series, streaming service HBO Max got on the board in a major way with "Hacks." The comedy about a Las Vegas comedian and her reluctant millennial protege earned a win for lead actress Jean Smart, who received one of the loudest ovations of the evening. "Hacks" also scored for its directing and the writing of series co-creators Lucia Aniello, Paul W. Downs and Jen Statsky.

For the sixth year in a row, "Last Week Tonight with John Oliver" won for best variety talk series. The first person the host thanked was fellow nominee Conan O'Brien, who in June ended his run on late-night TV after 28 years.

"RuPaul's Drag Race" extended its winning streak, too, winning outstanding competition program for a fourth year in a row.

Host Cedric the Entertainer, stand-up comedian and star of CBS sitcom "The Neighborhood," injected some energy into the scaled-down ceremony, leading the celebrity crowd in a singalong of Biz Markie's "Just a Friend," reworked as a tribute to the late rapper and television itself.

This year's awards will serve as a showcase for the entertainment audiences turned to during the pandemic. Escapist fantasies ("The Mandalorian," "WandaVision"), period dramas ("The Crown," "Bridgerton") and immersive comedies ("The Flight Attendant," "Cobra Kai") are among the series vying for wins in top categories.

Netflix is expected to have a good night. The streaming service came into Sunday's ceremony with 34 wins already, more than twice the amount received by closest competitors Disney+ (13) and HBO/HBO Max (10). Those preliminary wins, which count toward the Emmy grand totals, were handed out last weekend at the Creative Arts Emmy Awards, honoring technical categories such as cinematography and casting.

While Netflix has a good shot at its first-ever win for best drama with "The Crown," a newer streamer, Apple TV+, has designs on outstanding comedy series, thanks to the popularity of "Ted Lasso."

More than ever, the competition hinges on streaming content. Broadcast and basic cable networks only account for two of the eight series nominated for best drama -- "This Is Us" (NBC) and "Pose" (FX) -- and only one best-comedy nominee -- "black-ish" (ABC).

Write to John Jurgensen at john.jurgensen@wsj.com

(END) Dow Jones Newswires

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The Telegraph

Gaming

'We want to emulate Apple': how one British firm is trying to disrupt the PC hardware market

By Dan Silver

1,360 words

17 September 2021

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English

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Opsys CEO Liam Moore outlines his mission to change gamers' relationship with their computers

With so much of the mainstream video game discourse polarised around the staggering revenues to be derived from casual mobile gamers at one end of the spectrum and Sony, Microsoft and Nintendo's never-ending scrap for console market share at the other, it's easy to see why PC gaming is often dismissed as a niche concern.

The numbers tell a very different story, though. Industry analysts Newzoo estimated PC software sales comprised some 23% of the global gaming market in 2020 (compared to 28% for consoles and 48% for mobile), raking in a far-from-niche \$36.9bn in revenue.

So why the disconnect? Well, traditionally the barrier to entry for PC gaming has been comparatively high when compared to home consoles. With no real standardisation of system specifications, components, or manufacturers, it takes a degree of knowledge and/or research to know what hardware to buy. It's expensive too, with gaming rigs often costing double or triple the price of ostensibly comparable consoles.

And then there are the image issues. Computer connoisseurs might refer to themselves – only semi-jokingly – as the PC Master Race but to PlayStation hipsters reared on two decades worth of lifestyle marketing, they're nerdy obsessives locked away in dark rooms playing obscure simulations and strategy titles.

Liam Moore is a man hoping to change all of that. After a decade or so spent working in sales and marketing at the more traditional 'beige box' end of the PC supplier spectrum, he noticed a new generation of gamers coming through and spotted an opportunity to do things differently. And so he started securing the financial backing to launch his own [premium boutique PC building company, Opsys](#) – based in Stockport and opened for business in November 2020.

The unusual name is a contraction of 'op system', appropriating the gaming slang 'op' which is used to describe something in a game that is so overpowered using it is almost akin to cheating. In this context, it refers not just to the computational grunt of the systems Moore's company builds but also its overriding ethos. He doesn't just want to sell you a more powerful machine – he actually wants to change your relationship with it.

"There's a massive misconception about the shelf-life of PCs," he says. "People think in three to five years it will either fail, and the hardware will just stop working, or it will have become obsolete for the type of experience and uses that they want it for."

In reality, Moore explains, it's usually only one or two components of a high-end system which need replacing or upgrading to keep it ahead of the tech curve. And so he devised a unique 'level up' warranty which states Opsys won't charge for any labour carried out on the computers they sell – effectively offering customers unlimited upgrades for life. Whether they want to upgrade their graphics card, increase the RAM, or merely customise the way it looks, Opsys will collect their PC and then turn the work around in a week for free (providing the new parts are purchased with them, of course; Moore's running a business after all).

It's a fascinating attempt not just to change consumer behaviour but also to combat the inescapable sense of in-built obsolescence which leads to vast quantities of tech products being discarded or replaced wholesale every couple of years. There are also clear environmental benefits from reducing the volume of tech landfill too.

There's no getting away from the fact this is a premium service with a premium price tag, though. Opsys' cheapest pre-built system, the Ascenda, comes in at a shade under £750 – some £300 more expensive than a PlayStation 5 (providing you can find one on the shelves, of course). The top of the range Dominus will set

you back £2,600 – and true power obsessives can spend even more by designing their own custom rigs with [Opsys' cutting-edge 'configurator' web tool](#).

The Telegraph had the opportunity to test the Agillian which, despite being the second-from-least powerful of Opsys' seven off-the-shelf models, still comes with a four-figure price tag. It's an undeniably impressive piece of kit, mind: stylish, speedy and super-silent, it runs infamously resource-heavy games like Cyberpunk 2077 and Microsoft Flight Simulator at levels even next gen console owners can only dream of.

It also undeniably feels like a luxury item at a time when publishers are pushing initiatives to make PC gaming more accessible than ever. Microsoft are in the process of rolling out their Xbox Cloud Gaming service which will allow subscribers to stream high-end PC games on to other devices including phones, tablets and, eventually, smart TVs. December, meanwhile, will see the launch of Steam Deck, a handheld device comparable in form to the Nintendo Switch and price to an iPad, which will allow gamers to play much of their existing catalogue of PC titles on the go.

Moore makes no bones about the premium nature of Opsys' offering but also points to the other uses a PC has, from productivity tasks through to streaming and competitive eSports. Those latter areas are, you sense, very much on Moore's mind. His pre-built gaming rigs have see-through side panels to show off their colour-coordinated cabling and mirrored components, and many come with dazzling customisable LED lights tailor-made for broadcasts on Twitch (at home, our demo unit earned the nickname, 'the disco box').

Indeed, to describe Opsys as a disruptor brand in this space would be like describing Emma Raducanu as a challenger on the tennis circuit. Everything from the elaborately lavish packaging and branding through to a quasi-membership strategy which rewards the sharing of build on social media, has seemingly been done with virality in mind.

"We're speaking to the newer wave who are more socially active and creating something that we want them to show off," says Moore. "People don't spread word of mouth by word of mouth anymore, it happens very much in the social realm."

The apogee of this approach was arguably a job posting earlier in the year looking for a full-time gamer to take up the position of an OUX (or Overpowered User Experience) Engineer. Essentially a super smart way to drum up publicity while hiring an influencer, streamer Ben Hoerman eventually secured a £30,000 contract to promote the brand for 12 months.

"The OUX engineer can be deemed as a publicity stunt but if you delve more into it, we're giving someone the opportunity to 'op' their life," explains Moore. "Product-wise, we want to make people feel like we're op-ing their gaming experience. This synergises with that because we're giving someone an 'op' career shot where they can be gaming or streaming for a year and be financially stable."

Moore's commitment to his brand vision is matched only by the scale of his ambitions. The five-year plan he wrote to secure the backing for Opsys naturally involves cementing their burgeoning reputation as one of the UK's leading premium boutique PC builders but beyond that he sees the potential to 'op' his company too, bringing their unique outlook to the wider tech lifestyle market.

"I suppose we're trying to emulate what Apple does," he says matter of factly. "If they wanted to move into a space it was because they thought they could produce a product that was better than what was currently on the market. If we want to move into a space it's because we think we can make an experience 'op' for customers."

Is Moore's self-belief overpowered too? Perhaps. Then again with console supply shortages predicted to continue up to Christmas and beyond, perhaps it's time for the PC brigade to claim the centre ground.

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Apple unveils iPhone 13, 13 Pro with upgraded camera

1,451 words

16 September 2021

Deccan Herald

DECHER

English

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Apple's new iPhone 13 and 13 Pro will be available for pre-order from September 17 onwards in India.

As anticipated, Apple on Tuesday (September 14) took the wraps off the new-generation iPhone 13 and 13 Pro series during the virtual event in Cupertino, US.

Apple iPhone 13 and the 13 Pro series retain most of the design language we see in the iPhone 12 series. The biggest improvement includes the small camera notch at the top centre. It is now 20 per cent slimmer than its predecessor.

Also, the iPhone 13 and the 13 mini now feature diagonally placed cameras on the back. The previous-generation models have vertically aligned camera modules.

On the front, they are protected with Ceramic Shield, sturdiest glass shield on any phone in the industry. The iPhone 13 and 13 mini feature aerospace-grade aluminium rail around the edges, and the iPhone 13, and the 13 Pro Max come with surgical-grade stainless steel frames.

All the iPhone 13 series mobiles support IP68 rating, meaning they can sustain water pressure up to 6 metres (around 19.68 feet) for close to 30 minutes.

Apple iPhone 13 and 13 mini come in 6.1-inch (2532x1170p at 460 ppi) and 5.4-inch (2340x1080p at 476 ppi) screen sizes and the iPhone 13 Pro and the 13 Pro Max sport 6.1-inch (2532x1170p at 460 ppi) and 6.7-inch (2778x1284p at 458 ppi) sizes, respectively. The new iPhone 13 Pro series. Credit: Apple

They feature Super Retina XDR OLED display with True Tone technology, Wide colour display (P3), Haptic Touch and 1,200 nits max brightness (HDR).

Apple iPhone 13 Pro and the 13 Pro Max also support ProMotion technology with adaptive refresh rates up to 120Hz.

Inside, all the four iPhone 13 series models feature an Apple A15 Bionic chipset with a new 6-core CPU with two performance and four efficiency cores and a new 16-core Neural Engine.

However, the iPhone 13 and 13 mini feature 4-core GPU, whereas the iPhone 13 Pro and 13 Pro Max have 5-core GPU. Key aspects of Apple A15 Bionic chipset. Credit: Apple

As far as the photography hardware is concerned, the iPhone 13 and the 13 mini come with Dual 12MP camera system (Wide: f/1.6 and Ultra-Wide: f/2.4) with Night mode, Deep Fusion, Sensor-shift optical image stabilisation, 2x optical zoom out, Digital zoom up to 5x, True Tone flash with Slow Sync, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Smart HDR 4 for photos and Photographic Styles.

On the other hand, the iPhone 13 Pro and the 13 Pro Max boast-- Pro 12MP camera system (Telephoto: f/2.8, Wide: f/1.5 and Ultra Wide: f/1.8), Night mode, Deep Fusion, Apple ProRAW, Sensor-shift optical image stabilisation, 3x optical zoom in, 2x optical zoom out; 6x optical zoom range, Digital zoom up to 15x, True Tone flash with Slow Sync, Night mode portraits, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Smart HDR 4 for photos, Photographic Styles. Additionally, thanks to better camera sensors on the Pro models, they support ProRes video recording up to 4K at 30 fps (1080p at 30 fps for 128GB storage). Key features of the iPhone 13 Pro models. Credit: Apple

"With new sensors and lenses for all three rear cameras, optimised to work seamlessly with iOS 15 and powered by the new image signal processor (ISP) in A15 Bionic for improved noise reduction and tone mapping, the iPhone 13 Pro lineup features the best camera system ever on iPhone. The all-new Wide camera has a larger sensor with 1.9 µm pixels, the largest ever on iPhone, for less noise and faster shutter speeds needed across lighting conditions, producing even more detailed photos," Apple said.

All four iPhone 13 series models support Cinematic mode for recording videos with shallow depth of field (1080p at 30 fps), 4K video recording at 24 fps, 25 fps, 30 fps or 60 fps, 1080p HD video recording at 25 fps, 30 fps or 60 fps, HDR video recording with Dolby Vision up to 4K at 60 fps, Sensor-shift optical image stabilisation for video, 2x optical zoom out, Digital zoom up to 3x, Audio zoom, QuickTake video, Slow-motion video support for 1080p at 120 fps or 240 fps, Night mode Time-lapse, Time-lapse video with stabilisation, and Stereo recording.

All four models feature the same 12MP (f/2.2) True Depth sensor, but the Pro models support ProRes video recording up to 4K at 30 fps (1080p at 30 fps for 128GB capacity).

The front camera of all the four iPhone 13 series models supports Retina Flash, Smart HDR 4 for photos, Photographic Styles, Portrait mode with advanced bokeh and Depth Control, Portrait Lighting with six effects (Natural, Studio, Contour, Stage, Stage Mono, High-Key Mono), Cinematic mode for recording videos with shallow depth of field (1080p at 30 fps), 4K video recording at 24 fps, 25 fps, 30 fps or 60 fps, HDR video recording with Dolby Vision up to 60 fps and more. Key features of Apple iPhone 13 and the 13 mini. Credit: Apple

All four models come with bigger cell capacity and promise to offer longer battery life than their respective predecessors. Apple iPhone 13 mini and the standard iPhone 13 will be able to deliver close to 17.5 hours and 19 hours of video playback, respectively.

On the other hand, the iPhone 13 Pro and the 13 Pro Max can offer up to 22 hours and 28 hours of video playback.

Like the new Apple Watch Series 7, iPad 9th gen and iPad mini 6th gen, the iPhone 13 series is made of environment-friendly materials. The Phone 13 is said to be designed to minimise its impact on the environment, including antenna lines that use upcycled plastic water bottles that have been chemically transformed into a stronger, high-performance material — an industry first. The new iPhone also uses 100 per cent recycled rare earth elements in magnets like those used in MagSafe, 100 per cent recycled tin in the solder of the main logic board and, for the first time, in the solder of the battery management unit. Both models also use 100 per cent recycled gold in the plating of the main logic board and the wire in the front camera and rear cameras. Redesigned packaging eliminates the outer plastic wrap, avoiding 600 metric tons of plastic and bringing Apple closer to its goal of completely removing plastic from all packaging by 2025. Apple iPhone 13 series and the retail box are made with environmentally friendly materials. Credit: Apple

Apple iPhone 13 series price and availability details

The new iPhone 13 Pro and iPhone 13 Pro Max will be available in graphite, gold, silver, and sierra blue in 128GB, 256GB, 512GB, and all-new 1TB storage options. Apple iPhone 13 Pro colour options. Credit: Apple

The iPhone 13 and iPhone 13 mini will be available in pink, blue, midnight, starlight, and (PRODUCT)RED in a new entry-level capacity of 128GB for double the storage, as well as 256GB and 512GB capacities.

Customers in India and 40 plus countries and regions will be able to pre-order iPhone 13 Pro and iPhone 13 Pro Max beginning at 5:30 pm IST on Friday, September 17, with availability beginning Friday, September 24.

Apple iPhone 13 Pro price starts at Rs 1,19,900 and the iPhone 13 Pro Max begins at Rs 1,29,900. The new iPhone 13 series colour options. Credit: Apple

The iPhone 13 price starts at Rs 79,900 and iPhone 13 mini base variant will be available for Rs 69,900.

Complete price details of Apple iPhone 13, 13 Pro series models: Models Storage Price Apple iPhone 13 Pro Max 1TB Rs 1,79,900 512GB Rs 1,59,900 256GB Rs 1,39,900 128GB Rs 1,29,900 Apple iPhone 13 Pro 1TB Rs 1,69,900 512GB Rs 1,49,900 256GB Rs 1,29,900 128GB Rs 1,19,900 Apple iPhone 13 512GB Rs 1,09,900 256GB Rs 89,900 128GB Rs 79,900 Apple iPhone 13 mini 512GB Rs 99,900 256GB Rs 79,900 128GB Rs 69,900

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Tech

Which iPhone should I buy? Here's what to consider picking an Apple smartphone

Brett Molina

1,124 words

15 September 2021

USA Today Online

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English

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With the announcement of iPhone 13, consumers who want to turn to Apple for their next smartphone have plenty of options.

On Tuesday, Apple confirmed during a virtual event it will release four models of the iPhone 13 on Sept. 24. Along with the standard model, Apple will launch a Mini version, as well as Pro and Pro Max models.

On top of that, consumers can also get either the iPhone 12 or iPhone 12 Mini, both at lower prices compared to the latest models.

But even if that's not enough, Apple also still offer the iPhone 11, released in 2019, and the second-generation iPhone SE.

That's a lot of iPhones.

With that much choice, the question is which iPhone should you buy? We help break it down:

History of the iPhone: How Apple's signature smartphone has changed over the years

Apple event summary: iPhone 13 is here at \$799, plus a new iPad, Apple Watch, more

iPhone 13

Price: \$799

Why should I buy it? Because you want the latest iPhone, but you don't want to break the bank by getting a Pro or Pro Max. Plus, you get a pretty solid boost in battery life compared to the older models.

Key features missing: When lined up against the Pros, you lose out on a much bigger screen and a significant bump in battery life. Apple says the Pro Max supports up to 28 hours of video playback (or 25 when streaming), compared to 19 (and 15 for streaming) on the iPhone 13. Also, the Pros have a three-camera system (they add a telephoto lens), while the 13 just has the wide and ultra-wide cameras.

iPhone 13 Mini

Price: \$699

Why should I buy it? Because you want the iPhone 13, but want to save a little money and don't need that much touchscreen. It measures 5.4 inches, compared to 6.1 inches on the standard iPhone 13 and the Pro.

Key features missing: All three of Apple's larger phones have better battery life compared to the Mini. While you still retain the same dual cameras like the 13, it lacks the three-camera beast on the Pro and Pro Max.

iPhone 13 Pro

Price: \$999

Why should I buy it? Because you want an iPhone 13, but with a better camera and a little more battery life (2.5 hours' worth, according to Apple). Also, if you're seeking even more storage, there's a 1TB option.

Key features missing: There are two big differences technically between the Pro and Pro Max: the screen size and the battery life (an additional 2.5 hours). According to Apple, you get six extra hours of video playback on a Max versus an iPhone 13 Pro. You also lose out on a larger screen.

iPhone 13 Pro Max

Price: \$1,099

Why should I buy it? Because you have money to burn. But seriously, you not only want the latest iPhone but the one with absolutely every feature available. Go big or go home.

Key features missing: This is the top iPhone in Apple's line, so nothing to worry about here, unless "saving money" counts as a feature.

iOS 15: Here's what we know about the iPhone's upcoming update

iPhone 12

Price: \$699 (for 6.1-inch display)

Why should I buy it? Because you want a newer iPhone but at a discount. When you break down the iPhone 12 versus the iPhone 13, they're very similar devices. You're not missing out on a ton of critical features.

Key features missing: The entry iPhone 12 is at 64GB, while the iPhone 13 is 128GB. You lose out on features such as Cinematic Mode, which adjusts focus automatically depending on the focal point of a video you're shooting, as well as Photographic Styles, which allow you to create unique templates for photos. Of course, the iPhone 13 gets an upgraded processing chip, but the iPhone 12 is still zippy so don't expect a major shift. Then, there are all the additional upgrades mentioned previously with the Pro and Pro Max.

iPhone 12 Mini

Price: \$599

Why should I buy it? Same as the iPhone 13 Mini, you want the newer iPhone but with a smaller screen and better price.

Key features missing: Definitely the battery life. At 15 hours of video playback, according to Apple, it's almost half of the Pro Max. And just like iPhone 12, you miss the newer features of the iPhone 13 lineup.

iPhone 11

Price: \$499

Why should I buy it? You want a good iPhone, but don't need all the bells and whistles of the last couple of releases. It's also great if you're on a budget. It's \$200 less than the 12, and \$300 less than the 13. And you still get a really nice smartphone.

Key features missing: There's no 5G wireless support here. You can still charge the iPhone 11 wirelessly, but it won't support Apple's new MagSafe chargers. You also lose out on some subtle upgrades to waterproofing, display and processing. The iPhone 11 doesn't support HDR video recording or Night Mode time lapse. Also, Night Mode is not available on the front-facing camera.

iPhone SE

Price: \$399

Why should I buy it? It's the perfect budget iPhone. It's got all the basics you might want in an iPhone but at half the price of an iPhone 13. Also, if you yearn for the days of the smaller-screen iPhones with home buttons, the SE has a 4.7-inch screen. It runs the same processing chip as an iPhone 11 so you're not losing a ton of speed. It's also the only model currently in the iPhone lineup that still has Touch ID, which lets you log in with your fingerprint.

Key features missing: You only get one camera on the back of the phone, unlike the tryphobic nightmare of newer devices. Like the 11, the SE doesn't support 5G. Battery life isn't as robust, either (13 hours of video playback; eight if you're streaming). The SE lacks Night Mode and Deep Fusion, an automatic tool used on iPhones to make images look sharper. You can't send animated emojis, or Animojis, either. But you aren't buying this iPhone for all the latest features anyway.

Follow Brett Molina on Twitter: [@brettmolina23](https://twitter.com/brettmolina23).

This article originally appeared on USA TODAY: Which iPhone should I buy? Here's what to consider picking an Apple smartphone

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MONEY**'More powerful, more capable, and more fun'**

Brett Molina

659 words

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Among the other devices unveiled Tuesday: a revamped budget iPad, an updated version of its iPad Mini, and the new Apple Watch Series 7 with a bigger display.

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"Our customers rely on iPhone every day, which is why we've made iPhone 13 and iPhone 13 mini more powerful, more capable, and more fun to use," said Greg Joswiak, Apple's senior vice president of worldwide marketing, in a statement.

This year's release features several subtle upgrades to the iPhone, which will remain popular due to "pent up demand" for a new Apple phone, said Wedbush analyst Daniel Ives.

About 250 million of the 975 million iPhones already sold have not been upgraded in more than 3.5 years, said Ives.

iPhone 13 features

The iPhone 13 will be available in five colors: red, starlight (a whiteish shade), midnight (a blackish shade), blue and pink. The two camera lenses on the back of the smartphone have been placed diagonally.

Along with the typical upgrades to processing speed, display and battery life, the iPhone 13 adds a Cinematic Mode, which uses an automatic focus to shift between subjects in a video, similar to Portrait Mode for photos.

The new phone also means the arrival of iOS 15, which will launch as a free software update on Sept. 20. It will include updates to FaceTime, a Live Text feature where users can search text within images, and a Focus mode to manage your notifications.

A new Apple Watch

It wasn't just the iPhone enjoying the attention at Apple's event. The tech giant also unveiled Apple Watch Series 7, with a larger display and redesigned look to provide more of a wraparound effect.

Digital buttons on the watch face appear bigger to make them easier to tap, such as trying to find snooze on an alarm. The watch will also include new faces to leverage the size of the display.

The Apple Watch uses the extra screen area to add a predictive text keyboard, so users can quickly type messages by dragging their fingers across the appropriate letters or they can do it the old-fashioned way letter by letter.

Apple says the updated watch boasts an 18-hour battery life and charges 33% faster than the Series 6. It's available in multiple colors including midnight, starlight, green and red.

The Series 7 will start at \$399 and launches later this fall.

Two new iPads,

including a revamped Mini

Apple also rolled out updates to its iPad line, with new versions of its entry-level model starting at \$329 and an overhauled iPad Mini starting at \$499.

Apple says the new iPad Mini, which will feature an 8.3-inch touchscreen, will perform 80% faster than the previous model. The tablet, available Sept. 24, will include an upgrade to its cameras, support for the second-generation Apple Pencil, and support for 5G wireless networks.

The entry-level iPad will retain the same design and price but feature more storage starting at 64GB, and add a 12-megapixel front-facing camera with support for Center Stage, a feature on iPad Pro models which can automatically detect and follow who's on screen. It's available on Sept. 24.

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FINANCIAL REVIEW

Companies and Markets

The real risks inside digital wallets

Karen Maley

1,120 words

14 September 2021

The Australian Financial Review

AFNR

First

30

English

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One of the most arresting statistics in the final report of Scott Farrell's excellent payments system review is that the Chinese mobile payment app, WeChat Pay, boasts some 690,000 users in Australia.

Of course, WeChat Pay is a minnow compared with the market penetration that tech giants - such as Apple Pay and Google Pay - have with the digital wallets and apps that allow people to use smartphones to make tap-and-go payments, instead of using plastic cards.

As Commonwealth Bank chief executive Matt Comyn pointed out to a parliamentary inquiry back in July, Apple controls 80 per cent of the tap-and-go payments made by its customers using their smartphones - earning the US tech giant lucrative fees.

(Apple was quick to counter, pointing out that its market share of all debit and payment cards in Australia - which is much larger than the digital wallet segment - was less than 10 per cent.)

Still, it's not difficult to understand the unease that the country's four big banks have felt as they watched the popularity of digital wallets surge during the pandemic. Indeed, Commonwealth Bank now expects that digital wallets will become the most popular form of contactless payments by the end of this year.

But banks aren't just worried about the threat that foreign tech poses to their dominance of the sector.

They're also miffed that these foreign giants operate outside the country's financial regulatory framework - Apple maintains it is not a payment service, but that its app provides the "technical" architecture that allows customers to make payments with their bank cards - which means local regulators have very little visibility on the payments going through their systems.

What's more, there's no requirement for the foreign tech giants to make any financial contribution towards maintaining the payment infrastructure. In contrast, the banks have invested \$2 billion upgrading the payment system over the past five years.

But the big banks aren't the only ones feeling uneasy. Canberra is also alarmed at the prospect that Australia's payments system - which is crucial to the proper functioning of the entire economy, processing 55 million payments, worth about \$650 billion, each day - will increasingly be dominated by foreign tech giants unshackled by any local regulation or supervision.

In essence, it leaves Canberra contemplating a situation where large swathes of the country's payments system are controlled by tech titans, which operate in another country, and could, theoretically, turn off parts of the system remotely.

Of course, as a result of processing billions of dollars of transactions each day, these tech giants accumulate huge troves of valuable data on the spending habits and payments history of Australian consumers. But because these tech firms operate outside the regulatory net, this country's regulators have absolutely no say on how this information is collected or used.

There's a financial element as well because many of these foreign tech giants - which frequently use highly elaborate corporate structures to minimise their tax bills - pay very little corporate tax in Australia.

And it's likely that Treasurer Josh Frydenberg has reflected somewhat ruefully that in a national emergency - a worldwide pandemic, for instance, or a global financial crisis - he'd have very little chance of yoking the global tech giants to work in the national interest.

At a summons from the Treasurer, the bosses of the big four banks dutifully traipse down to Canberra to work out a plan for working through the crisis.

But Frydenberg knows that he'd be lucky to score a phone call with senior executives of, say, Apple, or Tencent (China's second-most-valuable tech company, which owns WeChat).

Which helps to explain Frydenberg's enthusiasm for the sweeping changes recommended by Scott Farrell in his landmark review of Australia's payments regulation.

The review recommended that the Treasurer should be given new powers to intervene in the payments system - based on the national interest considerations such as cyber security or consumer protection.

The Treasurer would be able to classify participants - such as the digital wallets offered by Apple or Google - as designated payments systems and impose binding directions on them.

Frydenberg warmly endorsed the report's recommendations.

"Ultimately, if we do nothing to reform the current framework, it will be Silicon Valley alone that determines the future of our payments system, a critical piece of our economic infrastructure", he wrote in The Australian Financial Review.

Of course, Australia is far from alone in recognising the difficulty in curbing the power that tech giants wield over the payments system.

In July, the Bank for International Settlements - an umbrella group for central banks - published a report on the digital transformation of financial services, which highlighted the difficulties of regulating the tech titans.

"The growing diversity of financial services providers and business models often requires expanding the regulatory perimeter. Payments, loans and deposit-taking services may be provided by specialised payment service providers (fintechs), e-commerce platforms (big techs) and other non-banks," the report said.

"It is therefore important that regulators develop approaches to ensure a level playing field and provide clear requirements for licensing. Similar activities and similar risks should in principle be treated similarly, regardless of the market participant, underlying technology, or method by which the service is provided."

However, the report conceded that "expanding the regulatory perimeter may be challenging in practice.

"Bringing new entities into the fold of financial regulation may require legislative changes, which could be considered controversial and may be resisted by powerful interests with deep pockets, such as big techs.

"There may be resistance to granting more discretionary powers to supervisors, even though such powers may be needed to continually adapt policy approaches to a changing sector."

It's a salutary warning to Frydenberg as he moves to impose new rules on the tech giants and the digital wallets they provide.

Meanwhile, The Australian Financial Review has reported that the competition regulator has decided to up the pressure on Apple by launching a formal investigation into the controls the tech giant imposes on bank access to the antennas on its iPhones that communicate with payment terminals.

The ACCC is taking a close look at the design of iPhones, which restricts payment cards from making "tap and go" payments unless they are stored in Apple's digital wallet.

Cards held in a third-party iPhone wallet, such as a bank app, can be used to pay in a store only if they are routed through Apple Pay, on which Apple charges banks a few cents for every \$100 of transactions.

The author owns shares in the major banks.

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Tech

Apple event summary: iPhone 13 is here at \$799, plus a new iPad, the return of the iPad Mini, **Apple** Watch Series 7

Brett Molina

2,994 words

14 September 2021

USA Today Online

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English

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Don't miss a moment: Huge innovations to how-tos, follow the latest tech news with the Talking Tech newsletter

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Do you own an iPhone or iPad? Update your Apple devices right now.

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Scroll down for live updates of Tuesday's Apple event:

Which iPhone to choose?

Here's a quick rundown of all the iPhones Apple will have available, with iPhone 13 on the list, and its starting price:

iPhone SE: \$399

iPhone 11: \$499

iPhone 12: \$599

iPhone 13: \$699

iPhone 13 Pro: \$999

The iPhone 13 Pro is not cheap

Bigger phone, bigger screens, bigger battery life and a bigger price tag. The iPhone 13 Pro starts at \$999, and the Pro Max starts at \$1,099. There's also a storage option for the Pro at 1 terabyte. You can preorder all four new iPhones starting Friday. They reach stores Sept. 24.

A big camera update for iPhone 13 Pro

The camera features a brand new telephoto lens, Ultra-wide and wide lenses. Low light photos will look brighter and sharper, optical zoom will get a boost, while the system will allow for macro photography to get detailed closeups on objects. The smartphones will also feature Night Mode for taking pictures without proper lighting conditions.

Users can also personalize their cameras with photographic styles. You can use default templates like rich contrast or vibrant warm, altering the tone and warmth on a photo to create the specific style you want.

Apple showcased how the cameras work by putting them in the hands of directors including Kathryn Bigelow. And here I am wasting all this on my dog (but still worth it).

As for battery life, the 13 Pros last 1.5 hours longer than the iPhone 12 Pro and 2.5 hours longer than the iPhone 12 Pro Max.

There's an iPhone 13 Pro model, too

And of course, here comes the info on the Pro model of iPhone 13.

The Pro comes in four finishes: graphite, gold, silver and sierra blue. They seem to feature a more metallic look compared to the standard models. There's still the three-camera system on the back of the phone as well.

There's also going to be an iPhone 13 Pro Max, for the Apple fans who love their big screens. Apple said it has the fastest graphics processing of any smartphone, ideal if you enjoy games on your phone.

The Pro models will have a new Super Retina XDR display, as well as ProMotion, which offers really high refresh rates and adapts depending on the activity. Translation: Scrolling and swiping through your phone will feel more fluid.

The Pro will have a 6.1-inch screen and Pro Max will have a 6.7-inch screen.

The iPhone 13 will start at \$799

The iPhone 13 Mini will start at \$699 while the iPhone 13 will start at \$799. The tech giant is also increasing the storage capability, starting with 128 GB of storage, which is pretty impressive. Both phones top off at 512 GB.

Also interesting to note Apple hasn't said anything about a Pro or Plus model with a larger screen.

How's iPhone 13 battery life?

The big question I have, as well as every other curious smartphone owner, is how long will the battery run? It runs between 1.5-2 hours longer than last year's phones.

There's a smart data mode that will automatically shift your phone from 5G to LTE to help conserve battery life.

What is Cinematic Mode?

As expected, the iPhone 13 is adding a new mode called Cinematic Mode, which is essentially a version of Portrait Mode for use in videos.

The feature is capable of highlighting and framing the key elements in a video clip, from people or objects in the background to those who are closer to the camera.

The mode will anticipate when the focus of the clip changes. Apple said they studied cinematography used in filmmaking to help design the mode. The mode will shoot in Dolby Vision HDR as well.

The iPhone 13 has arrived

Time for the star of the show, the next iPhone. Cook just unveiled the iPhone 13.

It has a flat-edged design just like the iPhone 12, and a diagonal arrangement for the dual-camera system in the back. It will be available in five colors.

Apple is also bringing back the iPhone Mini model. The display is 28% brighter than last year's phones. The display also boasts improved power efficiency. The standard iPhone 13 has a 6.1-inch screen, while the Mini has a 5.4-inch screen.

The next iPhone has a brand new chip (shocker) called A15. So, big surprise, it's going to run faster and better than your old iPhone.

Apple says the new chip has 50% faster processing than its competition and 30% faster graphics processing.

Apple Fitness+ gets an update, too

The fitness app available for Apple Watch will launch in 15 more countries and include additional types of experiences such as pilates and guided meditation. There are also workouts to help users get ready for snow season activities such as skiing or snowboarding.

The Fitness+ app will also add Group Workouts using the upcoming SharePlay feature for FaceTime launching on iOS 15. It can support up to 32 people at the same time.

Apple Watch Series 7 is here at \$399

Next up is the Apple Watch, the company's popular wearable. It will add new features specific to biking, including support for e-bikes and fall detection.

The Apple Watch Series 7 will boast a new display with 20% more screen area than last year's model. The shape has also been tweaked to feature softer, more rounded corners to create a more seamless wraparound effect. It's also 70% brighter indoors.

Buttons of the watch have been made larger to make them easier to find (especially if you're half asleep trying to hit snooze on an alarm). There's also a keyboard on the Apple Watch. Finally. It also has several watch faces aimed at leveraging the additional screen space.

The Apple Watch is water-resistant and is the first model with dust resistance. It also boasts an 18-hour battery life and charges 33% faster than the Series 6.

It's available in multiple colors including midnight, starlight, green and product red. Watchbands also feature a fresh variety of colors, too.

The Series 7 will start at \$399. It's available later this fall. Meanwhile, the budget Series 3 will stay at \$199, while the Apple Watch SE starts at \$279.

The iPad Mini returns at \$499

Cook said "its littlest iPad" is getting its biggest upgrade ever. It's available in four colors: purple, pink, starlight and space grey. It also boasts an 8.3-inch liquid retina display.

The top button will also double as a way to use Touch ID option as well. It's 40% faster and 80% faster with graphics processing. So, yeah, it's going to be really fast.

The iPad Mini features a USB-C port, similar to iPad Air, which they say will result in 10 times faster data transfers, and support third-party devices that also use USB-C. It will also feature 5G.

The new mini-tablet will also record in 4K and the same camera as the upgraded entry-level iPad, which means it will also support Center Stage.

It will support the second-generation Apple Pencil, and will have its own line of super-thin Smart Folio cases.

The iPad Mini starts at \$499, available in both Wi-Fi and cellular models. It's available for preorder Tuesday, and launches next week.

Apple unveils new iPad at \$329

Apple plans to roll out a new version of its low-cost iPad model. Apple says the new model will provide 20% faster computer and graphics processing, as well as a stronger neural engine to make services such as Live Text operate more quickly.

The front-facing camera is now a 12MP Ultra Wide camera and features Center Stage, which makes video calls more engaging by automatically detecting people. It's currently available on Pro models of iPad.

It maintains a similar design, which allows it to support most third-party peripherals such as the first-generation Apple Pencil and keyboards.

The iPad will also stick with the same price at \$329 but will add 64GB of storage to start, a major upgrade. It will launch next week.

New shows on Apple TV

Cook introduces the audience to new series coming this fall to the tech giant's streaming TV service. Several big names popping up, including Jon Stewart, a new season of The Morning Show starring Reese Witherspoon and Jennifer Aniston coming this month, and the science-fiction show called "Invasion," a show called "The Shrink Next Door" starring Paul Rudd and Will Ferrell.

The Apple event has started

We've officially begun with a musical interlude that appears to take place across different parts of California, performing the song "California Soul."

Tim Cook now jumps on stage to sing the praises of California. "We're proud to call California our home," he said.

Where can I watch the Apple event?

Along with streaming the event on Apple's website, you can also watch it through YouTube.

Remember, you can also stay on this page and follow the latest news once the event begins at 1 p.m. EDT.

Apple Store: 'Be right back'

As expected prior to any Apple event, the company's online store is down since we're going to see new products later Tuesday.

"Be right back," reads the message on Apple's store. "We're making updates to the Apple store. Check back soon."

A new Apple Watch and AirPods, too?

Apple typically doesn't only talk iPhone when it hosts (physically or virtually) its September events. We're likely going to see a new version of the Apple Watch as well. According to Bloomberg reporter Mark Gurman, the upgraded Apple Watch Series 7 will sport a new design, larger screens and a faster processor.

Meanwhile, 9to5Mac reports Apple could also introduce a fresh version of its AirPods. The last time Apple rolled out new AirPods was in 2019, said the report.

Beware the iPhone 13 scams

As buzz rises over the likely unveiling of the iPhone 13, so too are the number of scams linked to Apple's event. Research firm Kaspersky said they have seen intensified scamming activity ahead of the event.

The schemes often involve fake offers such as snagging the next iPhone before release or getting other deals on products like AirPods. People who sign up never get the device, and hackers get a hold of their personal information.

"Apple presentations have always been a popular lure for scammers to roll out malicious activity," said Tatyana Shcherbakova, security expert at Kaspersky, in a statement. "For several years now, we've seen how fraudsters use the buzz around new iPhone release and start spreading malicious features."

Among tips Kaspersky offers to protect yourself: Verify messages are from reliable sources, don't click on links in suspicious emails, and be skeptical about offers that appear too good to be true.

Epic ruling: Changes for the App Store?

It's likely Apple will address the recent decision in Epic Game's lawsuit filed against the iPhone maker. On Friday, U.S. District Judge Yvonne Gonzalez Rogers ordered Apple to let developers use payment options beyond the App Store, which would circumvent Apple's 30% commission on most app transactions.

Epic Games has said it is appealing the judge's decision rejecting Epic's allegations that Apple ran a monopoly.

By mid-December, Apple must build a framework that would allow developers to steer payments outside of the App Store and Apple's iOS, said Gene Munster, a managing partner with Loup Ventures.

But "it won't be until next year that developers can do steering A/B testing," Munster said on Twitter. "Apple will probably make further changes in the next 5 years, which will collectively yield an App Store that is a favorable asset from an investor's standpoint."

– Mike Snider

'Pent up demand' for a new iPhone

In advance of today's event, Wedbush Securities analyst Daniel Ives laid out a synopsis of Apple's position, noting that the company "remains in the midst of its strongest overall product cycle in roughly a decade."

The new line of iPhones, expected to be called the iPhone 13, will be the second model to include 5G wireless connectivity. Apple appears to be boosting production of the new phones beyond that of the iPhone 12, Ives said. His analysis suggests Apple's initial production of about 90 million units surpasses that of the initial iPhone 12 production of 80 million.

The reasoning? "This 5G driven product cycle will extend into 2022 and should also benefit from a post-vaccine consumer 'reopening environment,' Ives said.

Beyond that, there is "pent up demand" for new iPhones among current customers because about 250 million of the 975 million iPhones already sold have not been upgraded in more than 3.5 years, he said.

The new wave of iPhones is expected to include "an eye-popping 1 terabyte storage option," twice the highest storage capacity in the iPhone 12 Pro and iPhone 12 Pro Max, Ives expects.

– Mike Snider

iOS 15 is arriving soon: Here's what we know about the iPhone's upcoming update

Follow Brett Molina on Twitter: [@brettmolina23](#).

This article originally appeared on USA TODAY: Apple event summary: iPhone 13 is here at \$799, plus a new iPad, the return of the iPad Mini, Apple Watch Series 7

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Sports

What the Epic v. Apple lawsuit means for the gaming industry

By Shannon Liao

1,276 words

13 September 2021

Washington Post.com

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Experts consider last week's verdict in the Epic Games v. Apple trial a partial victory for both sides, but the ruling also carries ramifications for companies beyond those involved in the trial.

U.S. District Judge Yvonne Gonzalez Rogers ruled Friday that Epic failed to prove that Apple is a monopolist and, as such, it now owes Apple revenue commissions as back payment. The judge also ruled that Apple cannot keep developers from directing customers to alternative payment methods outside its App Store, citing California competition laws. The ruling also has massive implications for ongoing antitrust suits in the gaming industry and particularly for the mobile gaming world.

Gonzalez Rogers's decision means developers can funnel iOS users to other payment methods, cutting Apple out of some commissions and increasing their own profit margins.

"This verdict ... opens a path for tremendous [profit] margin expansion for developers," said Dan Burkhart, CEO of Recurly, a subscription management and billing platform.

Apple's App Store is the only way to install software on Apple's mobile operating system, iOS. Developers who make software for iOS must follow Apple's rules and use its payment system, which charges a commission on every sale. Burkhart hypothesizes that since developers will no longer have to route customers' purchases through Apple, they can work on making the purchasing process smoother and more user-friendly.

As for the video game "Fortnite," its fate on Apple's platforms is still unknown. Epic Games CEO Tim Sweeney said Friday that "Fortnite will return to the iOS App Store when and where Epic can offer in-app payment in fair competition with Apple in-app payment." As Gonzalez Rogers pointed out in her order explaining the judgment, Apple told Epic multiple times that it could bring the game back to the iOS platform as long as Epic complied with its rules. Epic has so far declined these offers.

Gonzalez Rogers ruled that Epic must pay Apple its 30 percent cut from the more than \$12 million of revenue — amounting to roughly \$3.6 million — collected from "Fortnite" iOS users between August and October last year as well as 30 percent from an undisclosed revenue amount that Epic continued to collect while the trial was underway.

In August 2020, Epic Games updated the "Fortnite" iPhone app to offer players the ability to pay Epic directly, bypassing Apple's payment processing system and its 30 percent commission. Apple responded by removing "Fortnite" from the App Store. Even though "Fortnite" can no longer be found in the App Store, players who had already downloaded the game can still access it, make transactions and pay Epic through the app.

The judge also found that Apple must allow developers to lead users to other ways to pay, including external links in their apps, buttons or "other calls to action" that direct people to payment options outside of Apple's proprietary payment system. Such options would keep Apple from its 30 percent revenue cut on in-app purchases. Previously, Apple did not allow developers to direct users to external payment methods.

"I expect all the developers to include links to their own purchasing mechanisms. Obviously, not all gamers are going to click on that link, but we will finally have some meaningful competition in digital mobile gaming transactions," said Florian Ederer, associate professor of economics at the Yale School of Management. "I also expect it to have big incentives for innovation in mobile gaming because game developers will get to keep some of the 30 percent of revenue that they had to hand over to Apple."

Apple did not respond to multiple requests for comment.

Sweeney, of Epic Games, stated on Twitter, "Today's ruling isn't a win for developers or for consumers. Epic is fighting for fair competition among in-app payment methods and app stores for a billion consumers."

The Epic Games v. Apple verdict has further implications for other antitrust suits, including an indie developer suing PC games company Valve and a class-action suit against Sony, alleging the console maker overcharged on PlayStation 5 games.

"The detail of the Epic judgment is going to provide a blueprint for cases like that, like in the case of Valve: what evidence is introduced, what economic testimony is introduced," said Mitch Stoltz, senior staff attorney of the nonprofit digital rights group Electronic Frontier Foundation, while cautioning that the fact-finding portion of each case would determine different outcomes.

There was also a large debate over the definition of a video game. The judge was not satisfied by anyone's explanations, including Sweeney's answer that a game has "some sort of win or loss or a score progression" and input from Matt Weissinger, head of marketing at Epic Games, who said that despite his many years of experience, he still did not know. Ultimately, she concluded that since "Fortnite" is a video game, the court did not need to come to a precise definition. And despite Epic's attempts to portray "Fortnite" as part of the metaverse, the judge wrote that this argument hardly mattered either: "At this time, the general market does not appear to recognize the metaverse and its corresponding game modes in Fortnite as anything separate and apart from the video game market."

As for game developers, producing a profitable mobile game on iOS could become easier.

"Most games on the App Store operate within a model where you spend tons of money to acquire players via advertising," said Eli Hodapp, former vice president of business development at GameClub, a game subscription service that Apple mentioned during the trial in court as an example of a competitor. Hodapp had previously spoken up on social media after Apple cited GameClub as a competitor to Apple Arcade, the tech giant's gaming subscription service, saying that GameClub had been denied many times in the application process.

"The tipping point of profitability typically required a game that performed really well, as previously Apple was taking 30 percent out of every dollar you made, which resulted in some brutal return on ad spend calculations at times," said Hodapp, who is now director of mobile publishing at GameMill Entertainment, which is making "Nickelodeon All-Star Brawl," coming in 2021. "This could go a long way to balancing that out, so games aren't operating on such thin margins."

Still, directing customers to pay elsewhere could be a hassle for the user experience if they have to open up a separate browser, enter their credit card information and make an account rather than paying through the iOS app, as they traditionally have, Hodapp said. Although the ruling does state that Apple cannot obstruct apps from linking to other ways to pay, it does not mean those other ways to pay are as easy and convenient as simply using Apple's payment method. That's what Sweeney was referencing in his tweet where he says "Fortnite" will not return to iOS until Epic can offer a direct, in-app way to make purchases that's just as convenient as Apple's way.

"More options are always good for the consumer," Hodapp said. "I don't see this as a mass exodus away from Apple's payment methods, but rather, just one more promotional avenue developers can choose to utilize."

[Read More](#)

[Understanding legal arguments in Epic v. Apple: Tinder, itch.io and a naked banana](#)

[Everything you need to know about the lawsuit between Apple and Fortnite parent company Epic Games](#)

[Twitch sues two people allegedly behind hate raids](#)

[Document WPCOM00020210913eh9d003jt](#)

The Washington Post

A-Section

Verdict is more of an Epic fail than the 'huge win' Apple claims

Will Oremus

876 words

12 September 2021

The Washington Post

WP

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Apple claimed a "huge win" Friday after a federal judge ruled that game developer Epic Games had failed to show that its App Store holds a monopoly in the mobile **gaming** market. But a closer read of the verdict suggests it was less an **Apple** win than an Epic fail.

"Success is not illegal," Judge Yvonne Gonzalez Rogers wrote, ruling against most of the "Fortnite" developer's antitrust claims. Her decision allows **Apple** to keep its own App Store as the exclusive market for apps on iOS devices, and to keep taking a 30 percent cut of users' purchases on many of those apps - a fee that Epic and other developers argue is too steep. No doubt that comes as a big relief to **Apple**, for which the App Store is a major source of revenue growth and profit.

But there are signs peppered throughout the lengthy, detailed verdict that the App Store's foundations may be on shaky ground amid a broader push to cut Big Tech down to size. In addition, Gonzalez Rogers opened a significant crack in Apple's model by issuing a permanent injunction that would force Apple to allow developers to offer iOS users alternative ways to pay for their apps, services and digital goods - ways that would bypass Apple and its fees.

The best news for Apple is that the judge rejected Epic's claim that the iOS App Store represents a market unto itself, with Apple commanding a 100 percent monopoly. Instead, the judge found that the market in which Epic Games' apps competes is "digital mobile gaming transactions," a sector that includes Google's Android platform. She was also unconvinced by Epic's arguments that Apple "locks in" users with policies and services, such as iMessage, that make it overly burdensome to switch to Android. She noted that Apple's high customer satisfaction ratings suggest most users stay because they like it, not because they're trapped.

Yet on those and several other important counts, it looks more like Epic lost its case than like Apple won it.

While "the court cannot ultimately conclude that Apple is a monopolist" under existing laws, Gonzalez Rogers wrote, "the court does not find that it is impossible; only that Epic Games failed in its burden to demonstrate Apple is an illegal monopolist." Apple might count that as a victory, but it's the opposite of "resounding": The judge made clear that her decision was based solely on the evidence Epic brought, and left the door wide open to future antitrust claims against Apple.

In several instances, she chided Epic for failing to bring the necessary evidence to support claims that she seemed otherwise inclined to entertain. One of those was the crucial "lock-in" claim, where she lamented that "despite hours on the stand, plaintiff never explored this topic" with Apple executive Phil Schiller, and found the analysis of Epic's expert witness to be incomplete.

"By ignoring the issue of customer satisfaction, Epic Games has failed to convince," Gonzalez Rogers wrote. "The Court warned the parties in advance that actual data was an important consideration."

More troublingly for Apple, the judge found that the company lacks justification for its 30 percent App Store fee, which "has apparently allowed it to reap supracompetitive profits" - meaning more profit than would be expected in a competitive market. Specifically, she concluded that Apple's operating margins on the App Store are likely in excess of 70 percent, even as it invests relatively little of its own resources in developing innovative features to continue improving the marketplace. Those "extremely high" margins "strongly show market power," Gonzalez Rogers wrote.

That's important, because market power is a key component in antitrust cases of all kinds. Finding that Apple has market power in the App Store is not the same as declaring it an illegal monopolist, but it opens the company to antitrust scrutiny that firms without market power are spared. That paves a path for future antitrust lawsuits against the company, which will learn from the shortcomings of Epic's case.

And while "success is not illegal" was a good line, Apple's critics might find their own rallying cry on Page 37 of the decision, where Gonzalez Rogers opined that "nothing other than legal action seems to motivate Apple to reconsider pricing and reduce rates."

Then there's the one aspect of the case that Apple clearly lost. Apple having to allow apps to point users to other payment methods might seem like a relatively small concession. But if Epic and the judge are correct that Apple used its "anti-steering" rules to prop up a 30 percent fee that would otherwise be untenable, then the fee itself would come under heavy pressure, assuming the injunction takes effect. Apple might ultimately find that it has to lower its fee to prevent developers from circumventing it entirely.

The case's ultimate outcome remains uncertain; Epic has already said it will appeal, and Apple could do the same. For now, it's safe to say that Apple's antitrust headaches are far from over.

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Epic ruling invites future efforts to paint Apple as monopolist -experts

508 words

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WASHINGTON (Reuters) - A U.S. judge stopped short of labeling Apple Inc an "illegal monopolist" on Friday, but the closely-watched ruling provides a roadmap for similar claims against the iPhone maker in the future, legal experts said.

Ruling on an antitrust case brought by Epic Games, creator of the online game "Fortnite," U.S. District Judge Yvonne Gonzalez Rogers said Epic did not present sufficient evidence of Apple having unlawful monopoly power in the relevant market, which she defined as "digital mobile gaming transactions."

But the California judge made clear that the decision was limited to the facts before her.

"While the Court finds that Apple enjoys considerable market share of over 55% and extraordinarily high profit margins, these factors alone do not show antitrust conduct," Gonzalez Rogers said. "The Court does not find that it is impossible; only that Epic Games failed in its burden to demonstrate Apple is an illegal monopolist."

The judge did find that Apple's rules on its lucrative App Store business violated California state competition laws.

The question of whether Apple abused monopoly power "remains very much unsettled," said Joshua Paul Davis, a professor of antitrust law at the University of San Francisco School of Law.

"Given how controversial these issues are right now, I would expect this not to be the final say," he said.

In her ruling, Gonzalez Rogers noted that Epic Games had "overreached" in a trial earlier this year by trying to define the relevant market as all app distribution and in-app payments on iPhones.

"As a consequence, the trial record was not as fulsome with respect to antitrust conduct in the relevant market as it could have been," Gonzalez Rogers said.

Apple's legal team said it was still reviewing whether to appeal the decision.

"We're extremely pleased with this decision," Apple's General Counsel Katherine L. Adams told reporters. "It underscores the merit of our business, both as an economic and competitive engine."

Valarie Williams, a partner at law firm Alston & Bird, called Gonzalez Rogers' decision a "road map" to future plaintiffs pursuing monopoly claims against Apple.

Future plaintiffs could bring a case that adopts Gonzalez Rogers's market definition and introduces additional evidence, Williams said.

Sam Weinstein, a professor of antitrust law at Cardozo School of Law, agreed the judge's ruling could encourage other market participants to learn from Epic's case and try to launch a stronger blow against Apple.

Language in the ruling could even signal that the judge thinks "it's only a matter of time" before Apple becomes a monopoly, Weinstein said.

"This is only one particular piece of litigation framed in one particular way," said Davis. "The court was pretty explicit that different litigants could come forward with different evidence...and that could potentially change the result."

(Reporting by Jan Wolfe and Mike Scarcella; Additional reporting by Stephen Nellis and Diane Bartz; Editing by Noeleen Walder and Sonya Hepinstall)

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Oversight lacking in **digital wallets** revolution

The Age's View

631 words

6 September 2021

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The Sydney Morning Herald - Online

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English

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For many of us, shopping using tap-and-go technology has become second nature. Even more so since the pandemic struck. But few may be aware that the latest evolution of the contactless payment system - "**digital wallets**" on mobile phones - has turned into an almighty stoush in Australia between two leviathans: Big Tech and Big Banks.

A rapidly growing number of bank customers are using **digital wallets** such as **Apple** Pay and Google Pay, which allow users to enter a card's details into their phone and pay using technology that seamlessly operates with the existing vast network of contactless point-of-sale devices.

Whenever a payment goes through Apple Pay, which is the only digital wallet app allowed on an iPhone, the tech company pockets an undisclosed fee from the banks. Google Pay, which runs on Android phones, doesn't charge a fee.

The banks have a long list of grievances, including Apple's unwillingness to allow digital wallet competitors on its iPhone (Android phones do allow third parties to use its payment technology), the paucity of regulatory oversight and their exasperation that having invested heavily to establish the contactless payment system, Apple is now happily charging banks for using that infrastructure.

As a consequence, in October last year, the Morrison government established a review of the regulatory architecture of the payment industry, led by lawyer and financial technology expert Scott Farrell. [Recently released](#), the review recommended, among other things, new powers for Treasurer Josh Frydenberg to clear up overlapping oversight responsibilities and potentially force Apple to open up its digital wallets technology to rivals.

[The lack of proper oversight was on full display](#) when officials from the Reserve Bank, the Australian Competition and Consumer Commission, the Australian Prudential Regulation Authority and the Australian Securities and Investments Commission fronted a Parliamentary committee that is also putting the payments industry under the microscope.

Even though all of them have a role in regulating the sector, they all took a backward step when asked what they were doing to investigate the rapidly expanding digital wallet sector. Committee member and Labor MP Deborah O'Neill warned she was "becoming more and more concerned that Apple and Google are driving the bus and the government is missing in action and the gaps ... are so open it's like the Wild West for those companies to come in here".

Mr Frydenberg has acknowledged the regulatory shortfall. [Writing in the Financial Review](#), he says the system is being transformed by the emergence of digital wallets, buy now pay later, cryptocurrencies and the like. "Individually, their impact is profound, collectively it's a revolution. Yet despite this disruption, the regulatory framework governing the payments system has not evolved."

Banks are keen to avoid the experience of the media industry, where millions of dollars in advertising revenue was sucked out of Australian companies by Google and Facebook. It led to years of industry turmoil before the news media bargaining code was finally put into place forcing tech companies to compensate media companies for the use of their content.

While Australia's banks are hardly on their financial knees, and the banking royal commission found they had more often adopted the role of bully than bullied, the [Treasurer must be true to his word in his commitment](#) to playing a far more active role in overseeing the payments industry. Consumers, lured by new digital forms of payment, cannot be left shortchanged in the long term by putting too much power over a critical piece of Australia's economic infrastructure into the hands of monopolistic big tech firms.

The Morning Edition newsletter is our guide to the day's most important and interesting stories, analysis and insights. [Sign up here](#).

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Science

Apple's upcoming augmented and virtual reality headset that mixes the real and digital worlds will only work when it is connected to an iPhone or Mac

Dan Avery For Dailymail.com

834 words

4 September 2021

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Mail Online

DAMONL

English

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* **Apple's** upcoming headset will overlay computer-generated imagery onto the user's view of the real world

* A report in The Information indicates **Apple's** production partner in Taiwan has struggled to produce device's integrated chip

* It won't have Apple's Neural Engine, which provide AI and machine-learning capabilities

* A sources predict mass production of the device is at least a year away

* Earlier rumors had hinted at a spring 2022 launch

Apple's augmented-reality (AR) and virtual-reality (VR) headset will reportedly need to be wirelessly connected to another device for processing power, like a nearby Mac or iPhone.

The much-rumored device's integrated chip lacks capabilities found in other Apple processors, according to a report in [The Information](#), similar to earlier iterations of the Apple Watch, which required users to keep their iPhones with them.

The helmet-like headset's AR feature will overlay computer-generated images onto the user's view of the real world, enhancing games and educational programs.

The VR feature fully immerses the user in a simulated environment.

According to the new report, the headset will have its own CPU and graphics processor and might have some basic standalone functionality.

A source familiar with the headset told the site that Apple's production partner, Taiwan Semiconductor Manufacturing, 'has struggled to produce the chip without defects and has faced low yields during trial production.'

They predict mass production of the device is at least a year away, contradicting the spring 2022 rollout predicted by TF International Securities analyst Ming-Chi Kuo earlier this summer.

According to The Information, Apple completed design work last year on the headset's system-on-a-chip, 'which isn't as powerful as the ones made for iPhones, iPads, and MacBooks.'

'It lacks the artificial intelligence and machine-learning capabilities, known as Apple's Neural Engine, which those devices include,' one source said.

That means a phone, tablet or laptop will do the heavy lifting 'to display virtual, mixed and augmented reality images.'

Sacrificing processing power will enable it to have longer battery life, the report said, and more energy for 'compressing and decompressing video,' and 'transmitting wireless data between the headset and the host.'

Another person familiar with the project said the image sensor and display driver for the headset is 'unusually large' — close to the size of one of the headset's lenses — in order to 'capture high-resolution image data from a user's surroundings for AR.'

In a note to investors in June, Kuo said that a helmet-like head-mounted display from Apple, offering both virtual and augmented reality, would ship in the second quarter of 2022.

'The device will provide a video see-through AR experience, so the lens is also needed, and Genius is also a key supplier,' Kuo wrote, according to [9to5Mac](#).

The new report didn't offer details on pricing for the headset, though Kuo has previously said it will cost approximately \$1,000.

Others have suggested a price closer to Microsoft's mixed-reality HoloLens 2 headset, which retails for \$3,500.

According to The Information's source, Apple's less cumbersome AR specs, Apple Glass, could debut in 2023.

In [a 2020 video on Front Page Tech](#), technology analyst Jon Prosser said he had seen two prototypes for Apple Glass at the company's Cupertino offices—one white and one black.

Both models, described as 'clean' and 'slick' in appearance, will be 5G-compatible, said Prosser, who is [described by Apple Insider](#) as an Apple leaker 'with sources throughout the company and supply chain.'

The AR eyepiece is reportedly not sunglasses but normal clear glasses that will display an interface on the inside of the lens – not unlike what's depicted in Apple's promo image.

Wearers would be able to simply use their gaze to select apps on the AR display, which would be similar to a smartphone homepage, rumors suggest.

Anyone facing an Apple Glass-wearing user will not be able to see the AR display, which will overlay digital images over the user's real-life surroundings.

According to Prosser, Apple Glass will have its own operating system, 'Starboard.'

Kuo previously claimed Apple Glass would not make an appearance before 2025, claiming the device has not yet reached the prototype phase.

In April, Apple CEO Tim Cook [told Sway podcast host Kara Swisher](#) that augmented reality is 'critically important' to the company's future.

The company has been working on AR glasses for some time: A 2019 patent application suggests it's considering a 'Display Device' that uses a 'reflective holographic combiner' to more seamlessly blend objects rendered in the headset's display.

That would increase the depth-of-field and reduce the eyestrain and nausea often associated with AR and VR.

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The Sydney Morning Herald

Business

Strict rules on cards for digital wallets

Clancy Yeates

520 words

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Payments

The biggest review of Australian payments regulation in more than 20 years says the government should have the power to set rules for new forms of payment such as Apple and Google's digital wallets, which could become systemically important players in finance.

Banks and fintechs yesterday backed the landmark review that said Australia's current system of payment regulation lacked a clear vision, as the sector grapples with rapid growth in new types of digital payment.

In response, the review said the federal Treasurer should be given new powers to intervene in payments systems, based on national interest criteria such as cybersecurity, crisis management, or consumer protection.

The payments system review, by King & Wood Mallesons partner Scott Farrell, also called for the Reserve Bank's powers to regulate payments to be bulked up, and for a simplified licensing regime.

As an example of how payments are changing rapidly, the review highlighted the rapid growth in digital wallets - apps that allow customers to use smartphones to make payments - provided by Apple, Google and WeChat. It said digital wallets could become "systemically important" if their growth continued, and while the apps held huge amounts of consumer data they were not subject to payment regulation.

While the report did not actually recommend regulating Apple Pay, Treasurer Josh Frydenberg yesterday appeared to signal the government's support for changes to the payment regulatory regime, and he highlighted the rise of digital wallets.

"Ultimately, if we do nothing to reform the current framework, it will be Silicon Valley alone that determines the future of our payments system, a critical piece of our economic infrastructure," Mr Frydenberg wrote in The Australian Financial Review.

Banks, which have highlighted the threat they face from unregulated "big tech" players, also backed Mr Farrell's report.

The Commonwealth Bank, which has recently engaged in a public fight with Apple over its market power in digital wallets, said the report underscored the need for a system that encouraged competition. "The Farrell Report provides a well-considered and comprehensive review of the current payments system which indicates there is broad agreement the system needs to be significantly re-shaped to incorporate the rapid changes underway in payments in Australia and globally," a CBA spokesman said.

The report did not make a call on whether there was a need to regulate fast-growing buy now, pay later (BNPL) operators such as Afterpay.

Managing director of payments consultancy The Initiatives Group, Lance Blockley, said the review was taking a much wider view of the payments system than merely the network that moves the money, to also include the user interface and technology platforms, such as digital wallets. The report said there was already a shift underway from a payments system to an "ecosystem", citing the rise of digital wallets, buy-now pay-later services and cryptocurrencies.

However, chief executive of payments consultancy McLean Roche, Grant Halverson, said the government's focus on big tech was a distraction, and the report did not focus enough on the need for more competition in payments.

Business

Navneet Alang: With Netflix entering gaming, will we ever sleep again?

Navneet Alang

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Big corporations, especially the truly successful ones, are always thinking about their competition. Samsung always has **Apple** on its mind. So, too, does Google, but it also has Microsoft and Amazon forever in its crosshairs.

But Netflix, beyond just the looming presence of Disney, famously has another foe in its sights: sleep.

In 2017, CEO Reed Hastings suggested that the company is competing against anything that might otherwise occupy a consumer's time: games, sports — even slumber.

Perhaps that's why the company is now moving into video games. During its Q2 2021 earnings call, Netflix announced that it had hired its first gaming VP.

For watchers of the streaming giant, it doesn't come as a complete surprise. But for those unfamiliar with gaming, it also seems like a highly fraught endeavour — a move that not only carries a high risk of failing, but also reveals

the trouble with the global scale of tech companies.

Netflix's reasons for broaching the world of gaming are obvious. Subscriber growth is slipping internationally, and in its most important markets of the U.S. and Canada, it is losing customers. Gaming thus offers a growth opportunity.

Beyond that, Netflix has an obvious advantage in its existing streaming infrastructure and know-how. Gaming is undergoing a shift analogous to video: instead of physical games or downloads that one owns, there is a trend toward streaming things across the web.

Given the kind of hair-trigger reaction times games require, new kinds of technical capacity are required, and as one of the world's biggest users of internet bandwidth, Netflix has a head start.

Couple that with the company's brand recognition and global reach, and there is a certain strategic sense to the proposed expansion.

Yet even bigger companies have fallen flat on their faces after trying to make it in gaming.

Google had grand ambitions with its Stadia streaming service, but this year cancelled plans to make its own titles, and has drastically reduced hiring for gaming, mostly because it simply hasn't made anything truly compelling.

Amazon, too, wanted to enter into gaming and, despite trying for nine years, it has barely made headway; major projects like a "Lord of the Rings" game have been cancelled, and the company isn't even on most gamers' radars for anything except shopping.

The trouble with attempts to get into gaming is that it requires a vertically integrated set of competencies which the established players have in spades.

Sony, which has returned itself to profitability on the back of the wildly successful PlayStation 4 and now 5, not only makes its iconic hardware, but also has a stable of talented game studios that produce highly acclaimed games.

In a similar vein, Nintendo has innovated in both its adaptable Switch hardware, and also in its wide collection of intellectual property that has broad appeal across demographics.

Meanwhile, Microsoft also has hardware, its own studios, and also cloud tech to enable its Games Pass, which lets users stream games for a monthly fee — almost like, well, “a Netflix for games.”

It's true, incumbents are disrupted in tech all the time. Pre-existing advantages aren't a talisman that protect against being usurped by more nimble or smarter competitors.

But Netflix faces an uphill battle. One challenge is building out its own talent in the right way, focusing on both in-house content creation but also acquiring or licensing popular games; it seems unlikely to succeed without something people actually want to play.

The other is technical — of being able to use its engineering team to make a streaming service that matches or betters Microsoft's and others.

Yet for all the business challenges, there's also something vaguely symbolic about this need of Netflix to push into new areas.

Tech companies operate at such scale that they can never stay limited to one field. Just as Netflix must expand into gaming, so, too, must Facebook move into virtual reality, payments and photo sharing.

Microsoft must build hardware, a cloud business, and grow its education presence. Google must move into almost everything, dominating search, smartphones and more.

Put another way: why does Apple need a credit card? Because it can.

When you operate at the scale of billions of users, there is an inbuilt, quasi-monopolist incentive to capitalize on that enormous customer scale and capture new business with new offerings.

Yes, that is a normal part of capitalism — but that doesn't mean we should praise it.

To the contrary, it is another sign of what the unprecedented scale of big tech leads to: an increasingly consolidated, centralized and ubiquitous digital experience.

Perhaps Netflix will succeed in their aims, and maybe that will give gamers another choice.

But when a company is competing against any form of leisure — hoping to fill every last minute of the day with screens — that success may not be something to celebrate.

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FINANCIAL REVIEW

Treasurer to pull Apple, Google into line

James Frost

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Treasurer Josh Frydenberg would be given new powers over the payments system including the ability to give Apple and Google orders under proposals for him to take control of the system from a network of financial regulators.

The proposals would clear up overlapping responsibilities and introduce a national-interest trigger to pull tech giants into line, and potentially be used to order Apple to open up the Apple Pay digital wallets to rivals such as the Commonwealth Bank.

Mr Frydenberg said the pace of development that had seen the likes of Apple Pay and Google Pay become intertwined in the \$650 billion in payments made every day in Australia required a modern and flexible response.

"Ultimately, if we do nothing to reform the current framework, it will be Silicon Valley alone that determines the future of our payments system, a critical piece of our economic infrastructure," he said.

Under the proposed changes the Treasurer would have the power to classify participants in the payments system such as digital wallets provided by Apple and Google as designated payment systems and deliver them binding directions.

The power to designate payment services currently sits with the Reserve Bank of Australia. Shifting it to the Treasurer would be a significant trump card for a [government grappling with the question of how to manage the influence of powerful offshore platforms](#).

It follows hard on the heels of [a warning from the Department of Home Affairs that big companies such as Amazon and YouTube](#) needed to do more to ensure they were not being used by violent extremists as an alternative funding source.

The Payments System Review does not advocate for a single regulator as some feared, but it pulls no punches, criticising the Reserve Bank for being reluctant to intervene and AUSTRAC's narrow focus on compliance for creating a chilling effect on innovation.

The review was written by lawyer and financial technology expert Scott Farrell, who performed the open banking review of 2018. The government pledged to consider his 15 recommendations before delivering its final response.

The recommendations are spread across three key areas including the need for a strategic plan to be developed by the government with input from industry, renewed co-ordination between regulators and a single tiered licensing system.

Mr Frydenberg said there was significant confusion as to which regulator new entrants needed to approach with around one quarter of new applicants for an Australian Financial Services Licence taking around five months to be considered.

"The need to deal with multiple regulators is leading to delays which add to costs and increase barriers to entry for new players," he said.

The development comes amid a stoush between Commonwealth Bank and Apple, with the bank accusing the technology giant of riding the coat-tails of Australian banks which have stumped up around \$2 billion for improvements over the last five years.

The Matt Comyn-led bank zeroed in on the technology sector - including digital wallet providers like Apple and buy now, pay later players like Afterpay - in its submission to the review, saying the system was "increasingly burdened" by freeloaders.

"To remain viable, the maintenance and ongoing modernisation of critical payments infrastructure will need to become a shared responsibility of all parties that benefit financially, directly or indirectly, from its use," CBA said in its submission to the review.

Mr Comyn stepped up his criticism of Apple in late July when he said it was not possible to compete with the maker of the iPhone without access to its near-field communication chip. [Apple shot back, saying the position was "misleading and false"](#).

The Minister for Superannuation, Financial Services and the Digital Economy, [Senator Jane Hume](#), said the review arrived at a critical time for the payments industry and it was important to address the gaps in the framework.

"There is a clear opportunity for improvement and innovation, especially in light of advancements in the digital economy," she said.

The Reserve Bank is singled out in the report for being slow, rigid and narrowly focused. It states the RBA is more likely to use its powers of persuasion than intervene and questioned its appetite to act on buy now, pay later, digital wallets or issues of national security.

"Some stakeholders observed that the RBA has been reluctant to regulate and relied too much on its powers of influence. It was noted that the interventionist nature of the designation power often means that the RBA relies mainly on its powers of influence to achieve its outcomes," the report states.

The difficulty of adding issues to the agenda of the Payments System Board experienced by stakeholders is also mentioned, with quarterly meetings criticised for being "not conducive to flexible decision-making" and preventing the body from responding quickly.

Following the \$39 billion acquisition of Afterpay by US payments giant Square, [Reserve Bank governor Dr Philip Lowe accepted regulation of the sector was in dire need of review, saying it was "complicated" and "changing very, very rapidly"](#).

Financial intelligence regulator AUSTRAC also comes in for scrutiny. The report found its independence from other financial services regulators has led to inconsistencies in policy direction, creating uncertainties for stakeholders.

The report says AUSTRAC's single-minded focus on AML-CTF compliance leaves it unable to "make appropriate trade-offs" between compliance and competition. The fines at AUSTRAC's disposal were "excessive and create a chilling effect" on innovation.

"Such fines can also impact on compliance activities and lead to excessive amounts of resources being diverted to AML/CTF compliance over other priorities, including dedicating resources to improving payment systems," the report says.

AUSTRAC has secured a combined \$2 billion in settlements from Australia's two biggest banks - Commonwealth Bank and Westpac - in 2018 and 2020 respectively, with both banks continuing to make significant investments in compliance each year.

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'Misleading': Apple hits back at CBA's Matt Comyn in payments stoush

Clancy Yeates

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The Age - Online

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English

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Apple has hit back at Commonwealth Bank chief executive Matt Comyn's warning over the technology giant's market power in **digital wallets**, branding the bank's recent commentary misleading and self-serving.

In a clash between Australia's biggest bank and the world's largest listed company, [Mr Comyn last month warned Apple was threatening to stifle competition through its dominance in digital wallets](#) -- apps that allow smartphone users to make tap-and-go and online payments.

Mr Comyn also attacked the restrictions Apple places on access to the iPhone's hardware. He said the tech giant was profiting from the payments business without making any contribution to the cost of sustaining payments infrastructure, while paying minimal local taxes.

Apple retaliated in a submission titled The Facts About Apple Pay, published by the Parliamentary Joint Committee on Corporations and Financial Services on Friday.

"Comments made during recent public hearings included misleading and false statements about Apple Pay and our business in Australia which Apple seeks to correct," it said.

The iPhone giant rebuffed Mr Comyn's comments on market power, saying these were a misleading interpretation of the data. It also claimed CBA was pushing for changes that would cement the bank's dominance in Australia.

One of Mr Comyn's key arguments was that it should be a concern that Apple Pay made up 80 per cent of CBA's tap-and-go payments through digital wallets.

Apple did not dispute the number, but claimed the comment was misleading all the same. It argued the 80 per cent figure reflected the success of Apple Pay compared with rival digital wallets such as those offered on Android phones.

"The misleading 80 per cent figure shared initially by Commonwealth Bank and cited in future dialogue and media reports does not represent Apple Pay's share of any market," Apple said. "It is simply the percentage of Apple Pay transactions from Commonwealth Bank's overall digital wallet payments at point of sale.

"This high usage of Apple Pay amongst Commonwealth Bank customers only demonstrates how strongly consumers prefer the convenience, security and privacy provided by Apple compared to the model being advocated by the Commonwealth Bank."

"This is unsurprising given that Commonwealth Bank CEO Matt Comyn stated publicly in October 2019 that launching Apple Pay was the number one customer request when he asked customers what he should prioritise when he was appointed into his role," the tech giant said in its submission.

A CBA spokesman denied the lender had provided misleading information to the parliamentary committee, adding: "Our concern about Apple's market position is undiminished."

Apple said its market share of all debit and payment cards in Australia - which is much larger than the digital wallet segment cited by CBA - was under 10 per cent, it said.

Another warning from Mr Comyn concerned Apple's policy on access to the iPhone's near-field communication (NFC) chip, which allows customers to use their phones as credit or debit cards.

In 2016, several local banks including CBA made an [unsuccessful attempt to launch a collective boycott of Apple](#) to try to pressure Apple to allow banks direct access to the chip, rather than going through the Apple Pay system. All the major banks have since relented and decided to provide Apple Pay on Apple's terms.

Apple's submission said there were ways for banks to access the chip, but it would not provide uncontrolled access to the NFC because this would raise the risk of hackers getting into iPhones and Apple watches.

Apple, which declined to appear before the committee last month, also said giving CBA control over its hardware threatened to stifle competition by allowing the bank to "lock out" competitors.

"Allowing Commonwealth Bank to have sole control of the NFC controller would assist them in not only locking out competitors, but also prevent innovation around non-bank use cases such as car keys or health insurance cards," Apple argued.

CBA's spokesman said CBA had never suggested any financial institution should have sole control of the NFC, and the bank had only sought fair access to the hardware for all financial institutions.

The Market Recap newsletter is a wrap of the day's trading. [Get it each weekday afternoon.](#)

Document AGEEOL0020210827eh8r001gu

Extras, IndyBest, Tech, Phones & Accessories
9 best 5G phones for next-generation speeds

Alex Lee
4,664 words
17 August 2021
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Independent Online
INDOP
English

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Netflix addict? Love **gaming** on the go? Get futureproofed with handsets from **Apple**, Samsung and more

Once used as a market differentiator, nearly every flagship [phone](#) available in the UK now has 5G connectivity: the Samsung Galaxy, Google pixel, Huawei's P40, the Sony xperia, and – the most recent addition – **Apple's** iPhone. They all come with 5G modems embedded into their slim, metal bodies.

5G is the next-generation mobile internet network technology and is said to be up to 20 times faster than 4G. You'll get faster download and upload speeds when you're out and about, streaming content won't be an absolute pain, and the quality of phone and video calls will be significantly higher.

It's an exciting development, but just because a phone has 5G connectivity, doesn't actually mean that the phone is any good. You might end up buying a 5G-capable phone, only to realise that every other feature is sub-par. So we've used our expert knowledge to compile this list, and ensure you don't end up with a dud.

While we've included a handful of budget options, 5G phones are generally on the pricier side of the spectrum, although the cost of them is slowly coming down with the development of new chipsets. We do, of course, have a round-up of the [best budget phones](#) if that takes your fancy.

How we tested

We've tested a bunch of handsets, looking at their ease of use; how well the cameras and speakers perform when snapping pics and watching Netflix; their battery life; and the overall design and performance of the phones. We also considered what you're most likely to be using 5G for, and whether the phones' features align with those tasks.

Read more:

- * [Best laptops 2021 for high performance and gaming on the go](#)
- * [11 best wireless earbuds for quality sound and noise cancellation](#)
- * [7 best VPNs for streaming securely on any device](#)
- * [9 best budget smartphones that don't compromise on quality](#)
- * [Best phones 2021: iPhone, Samsung and Huawei phones reviewed](#)

The best 5G phones for 2021 are:

- * Best 5G iPhone – iPhone 12 pro max: From £1,099, [Apple.com](#)
- * Best display for streaming – Sony xperia 1 II: £1,099.99, [Amazon.co.uk](#)
- * Best design – Oppo find X3 pro: £1,099.99, [Amazon.co.uk](#)
- * Best stock Android 5G phone – Google pixel 4a 5G: £491, [Amazon.co.uk](#)
- * Best designed mid-range 5G phone – TCL 20 pro 5G: £499, [Very.co.uk](#)
- * Best mid-range 5G phone – OnePlus nord 2: From £399, [Amazon.co.uk](#)
- * Best mid-range Samsung 5G phone – Samsung Galaxy S20 FE: £699, [Amazon.co.uk](#)

* Best camera – Huawei mate 40 pro: From £1,099.99, [Huawei.com](https://www.huawei.com)

* Best budget 5G phone – Motorola moto G 5G plus: From £229.99, [Amazon.co.uk](https://www.amazon.co.uk)

iPhone 12 pro max

Best: 5G iPhone

Rating: 9/10

* Dimensions: 160.8mm x 78.1mm x 7.4mm

* Screen size and resolution: 6.7in, 1,284 x 2,778px, 458ppi

* Storage capacity: 128GB/256GB/512GB

* Screen technology: Super retina XDR OLED, HDR10, Dolby vision

* Camera (rear): 12MP wide, 12MP telephoto, 12MP ultra-wide

* Camera (front): 12MP

* Weight: 228g

* Headphone jack? No

* Wireless chargeable? Yes

* OS: iOS

* Battery: 3,687mAh

* Water resistance: IP68 (4m up to 30 minutes)

When Apple introduced the iPhone 12 pro on stage in late 2020, acting as if it had heralded in the new era of 5G, we did bawk a little. But with the iPhone 12 pro max in our hands, we've found it easy to forgive the bravado.

For those of you looking for a big, beautiful and powerful iPhone, the high-end 12 pro max is the release you've been waiting for. For starters, it looks absolutely stunning. As with the rest of the iPhone 12 line-up, the pro max has that same flat-edge design, with a stunning stainless steel border and a matte-glass rear, making it look as premium as its price tag would suggest. Its gorgeous 6.7in super retina XDR OLED ceramic shield display – 0.2in bigger than the 11 pro max – is also great for watching content over your speedy 5G connection, helped along by Apple's new A14 Bionic chip.

The iPhone 12 pro max's camera array really steals the show. It's got a telephoto lens with a 2.5x optical zoom. The main camera has a 12MP resolution, but the sensor is bigger, capturing 87 per cent more light in shots. Photos are detailed, they're brighter, and photography in Apple's new ProRAW format is a dream.

The battery life is also the best we've seen on an iPhone, lasting us well into a second day of use without needing plugged in or snapping onto a MagSafe puck. We were able to charge the phone to 50 per cent in just half an hour with a 20W USB-C adaptor. Charging just with the MagSafe took significantly longer, however, but the convenience is there if you need it.

Of course, this iPhone may be a little too big for some hands and even some pockets, but the battery life and the stellar camera array more than make up for it. If you still think it's too big, the smaller iPhone 12 pro is just as good – although the battery might not last as long. You can get both the 12 pro and 12 pro max in "Pacific" blue, graphite, gold and silver. For what it's worth, it's the best iPhone Apple has ever made.

[Buy now](https://www.apple.com/iphone12-pro/) £1099.00, [Apple.com](https://www.apple.com)

Sony xperia 1 II

Best: Display for streaming

Rating: 9/10

* Dimensions: 165.1mm x 71.1mm x 7.6mm

* Screen size and resolution: 6.5in, 1,644 x 3,840px, 643ppi

- * Storage capacity: 256GB
- * Screen technology: 4K OLED, HDR BT.2020
- * Camera (rear): 12MP wide, 12MP telephoto, 12MP ultra-wide
- * Camera (front): 8MP
- * Weight: 181.4g
- * Headphone jack? Yes
- * Wireless chargeable? Yes
- * OS: Android 11
- * Battery: 4,000mAh
- * Water resistance: IP68 (1.5m up to 30 minutes)

The Sony xperia 1 II is a lanky chap. It's tall, narrow and looks a little awkward when sat next to the rest of the phones on this list. But these dimensions actually work massively in the 2020 flagship device's favour. That big, black slab of 6.5in phone, with its interesting 21:9 aspect ratio and 4K resolution display (unseen on any other flagship smartphone), makes it the best for watching videos, playing games and streaming content. If you find a film with a 21:9 aspect ratio (many modern-day movies are), there will be no black bars around the content.

It's Sony's first 5G phone and it is powered by the state-of-the-art Qualcomm Snapdragon 865 chipset, making it nice and snappy. The camera features are also designed with pro photographers in mind, with a physical shutter button and dedicated Photo Pro and Cinema Pro apps allowing you to adjust everything from the autofocus and metering to exposure compensation and white balance.

Battery life is also pretty impressive, lasting around the entire day with average use in our tests, plus it has wireless charging and can also fast charge up to 50 per cent in 30 minutes. There's a fingerprint sensor on the side and even a 3.5mm headphone jack – remember those?

It's not for everyone, though – some people might not enjoy the squared-off design, and it is a little bit slippery and unwieldy to hold without a phone case, plus it's almost impossible to reach the top of the screen one-handed (although there is a nifty split screen feature). The phone comes in black, purple and white in the UK.

[Buy now](#) £1099.99, Amazon.co.uk

Oppo find X3 pro 5G

Best: Design

Rating: 9/10

- * Dimensions: 163.6mm x 74mm x 8.3mm
- * Screen size and resolution: 6.7in, 1,440 x 3,216px, 525ppi
- * Storage capacity: 256GB
- * Screen technology: AMOLED
- * Camera (rear): 50MP wide, 13MP telephoto, 50MP ultra-wide, 3MP microscope
- * Camera (front): 32MP
- * Weight: 193g
- * Headphone jack? No
- * Wireless chargeable? Yes
- * OS: Android 11, ColorOS 11.2
- * Battery: 4500mAh

* Water resistance: IP68 (1.5m for 30 minutes)

The Oppo find X3 pro is one of the most powerful 5G phones of 2021. With that premium build quality comes an eye-wateringly high premium price tag, rivalling that of the iPhone 12 pro max and Samsung Galaxy S21 ultra. But while Oppo might not have the same name recognition as the power players above, don't write its flagship model off.

Released in March, the find X3 pro is a beast of a smartphone and it's hard to find fault with it. It looks sleek on the front, but once you turn it over, it's positively stunning. You get an almost cyberpunk-esque mirrored finish, with an elevated glass panel back that curves up to meet the camera module. It's a fine-looking phone indeed.

It has a 6.7in curved AMOLED display with a QHD+ (3,216 x 1,440px) resolution with a variable refresh rate between 10Hz and 120Hz, which switches depending on what you're doing on the phone, plus colours are splendidly accurate, thanks to its 1 billion-colour display.

Although Color OS (the platform the find X3 pro runs on) is a little clunky and cluttered, it's not slow by any means thanks to its top-of-the-range Snapdragon 888 processor. And Oppo really should be praised for daring to do something new with its camera array – there's a 50MP Sony IMX 766 sensor for the ultra-wide camera and the same on the main wide lens, as well as a neat micro lens camera on the rear for extreme close up photography – it's basically a legitimate microscope.

The phone contains a 4,500mAh battery, which lasted us roughly a day and a half while using 5G, but battery shouldn't be an issue, considering you can charge to 40 per cent in just 10 minutes thanks to the 65W charger. Plus, the 30W wireless charging system can fully juice up your phone in 80 minutes.

[Buy now](#) £1099.99, Amazon.co.uk

Google pixel 4a 5G

Best: Stock Android 5G phone

Rating: 8/10

* Dimensions: 153.9mm x 74mm x 8.2mm

* Screen size and resolution: 6.2in, 1,080 x 2,340px, 413ppi

* Storage capacity: 128GB

* Screen technology: OLED, HDR

* Camera (rear): 12.2MP wide, 16MP ultrawide

* Camera (front): 8MP

* Weight: 168g

* Headphone jack? Yes

* Wireless chargeable? No

* OS: Android 11

* Battery: 3,885mAh

* Water resistance: No, IP52

If you aren't a fan of overly-skinned Android devices, take a look at the Google pixel 4a, which is our pick for the best stock Android 5G phone, mixing together what we love about the flagship pixel 5 together with what we love about the original pixel 4a.

Although the pixel 4a 5G has a beefy (but dashing) full HD 6.2in AMOLED screen, it's not heavy or uncomfortable to hold because it's housed in a nice lightweight polycarbonate plastic body. You've still got that headphone jack on the top, and there's still a well-placed fingerprint sensor on the rear.

And despite Google's flagship pixel 5 phone costing a whole £100 more than the pixel 4a 5G, it's got the exact same brilliant 12MP main lens and 16MP ultra-wide camera system on the rear and a solid 8MP camera on the front. Photos are bright, colourful and sharp thanks to its dual-pixel autofocus feature.

Battery life is also pretty impressive. It lasted longer than the original pixel 4a, thanks to a bigger 3,855mAh capacity. There's also an extreme battery saver mode, which essentially extends your battery so that it will last up to two days – could be handy if you ever get lost while you're out wild camping. There's no wireless charging, though, so that might be a dealbreaker for some.

With the pixel 4a, you get all the benefits of Google's flagship pixel 5 without the lofty price tag. What you lose is a faster refresh rate on the display, a little more RAM, and a more premium build. It's a splendid pixel 5G phone for what you're paying.

[Buy now](#) £491.00, Amazon.co.uk

TCL 20 pro 5G

Best: Designed mid-range 5G phone

Rating: 8/10

- * Dimensions: 164.2mm x 73mm x 8.8 mm
- * Screen size and resolution: 6.67in, 1,080 x 2,400px, 395ppi
- * Storage capacity: 256GB with expandable storage
- * Screen technology: AMOLED, HDR10
- * Camera (rear): 48MP wide, 16MP ultra-wide, 2MP macro, 2MP depth
- * Camera (front): 32MP
- * Weight: 190g
- * Headphone jack? Yes
- * Wireless chargeable? Yes
- * OS: Android 11, TCL UI
- * Battery: 4,500mAh
- * Water resistance: No, IP52

Chinese manufacturer TCL isn't very well-known for its smartphones, having initially made a name for itself in the TV space and then largely using the Alcatel brand name on its handsets. But in the past few years, it has begun using the TCL brand more readily.

The TCL 20 pro 5G is the company's most premium smartphone to date and is one of the best-looking mid-range phones we've encountered. It not only looks incredibly stylish, but it won't have you breaking the bank either. It has a big 6.7in AMOLED display which curves downwards on the sides – an unusual feature for a mid-range device – plus there's no camera bump on the rear, meaning the four cameras lie flush with the phone's glass body. This is another welcome peculiarity that's missing on most flagship devices.

While the display only has a 60Hz refresh rate, colours pop and contrast well thanks to the AMOLED technology. TCL also borrows tech from its range of TVs, upscaling content so that you're always viewing it at its best and brightest. No notches here either, just unfettered screen with a small hole for the camera at the top. And it's even got a pretty snappy in-built fingerprint sensor, two SIM slots for your 5G enjoyment, an infrared blaster and a headphone jack especially for you retro listeners.

The cameras sound like they'd be pretty good in theory, with the TCL boasting a 48MP f/1.7 main camera, a 16MP f/2.4 ultra-wide, a 5MP f/2.2 macro and a 2MP f/2.4 depth-sensing camera, but the pictures fell a little flat. They didn't pop and colours felt somewhat dim. That said, the 32MP f/2.45 front-facing camera is a surprising bright spot, with portrait pictures coming out sharp and clear.

It runs on a fairly typical mid-range Snapdragon 750G, which is used on a lot of mid-range devices. While it's not top of the range, we didn't notice any issues with lag or performance, something probably helped along by the 6GB of RAM. Some would call this phone a little style over substance, with it looking great on the outside but middling on the inside since it's chock full of bloatware. But for the price, it's still an excellent mid-range 5G phone.

[Buy now](#) £499.00, Very.co.uk

OnePlus nord 2

Best: Mid-range 5G phone

Rating: 7/10

- * Dimensions: 158.9mm x 73.2mm x 8.3mm
- * Screen size and resolution: 6.43in, 1,080 x 2,400px, 409ppi
- * Storage capacity: 128GB/256GB
- * Screen technology: AMOLED, HDR 10+
- * Camera (rear): 50MP wide, 8MP ultra-wide, 2MP monochrome
- * Camera (front): 32MP
- * Weight: 189g
- * Headphone jack? No
- * Wireless chargeable? No
- * OS: Android 11, OxygenOS 11.3
- * Battery: 4,500mAh
- * Water resistance: No IP rating

The new OnePlus nord 2 is kind of like the antithesis to the TCL 20 pro 5G. While the TCL 20 pro has its sleek edges and flush, premium-looking back, the latest nord 2 is a little, eh, uninspiring, largely thanks to its plasticky exterior shell. It feels nicer to hold than it does to look at, though.

The 6.43in AMOLED display with gorilla glass technology is framed by a near-bezel-less border, and it makes up slightly for the design faux pas, although the screen does only have a 90Hz refresh rate. It's packed with all the display smarts you could ever need, like AI colour boost and AI resolution, which make content pop. We were particularly pleased with the stereo speakers, although we're unsure how often we're actually going to use them.

On the inside though, it gets almost everything right. It's powered by the MediaTek Dimensity 1200-AI, a custom processor made exclusively for OnePlus. It's essentially a flagship CPU in a mid-range phone, and it feels noticeably smooth and snappy. It's all helped along by OxygenOS, one of our favourite Android skins. It's fast, clean and pretty to look at. You can get an 8GB RAM and 128GB storage version or have it packed with 12GB RAM and 256GB if you want that extra boost.

It's all change in the camera department as well, with OnePlus taking the rear snappers down from four to three, adding in an interesting monochrome lens and opting for just one single 32MP f/2.5 front-facing camera. The main lens is a 50MP IMX766 sensor – yep, the same one as on the excellent Oppo find X3 pro – and you also get (an admittedly less detailed) 8MP f/2.3 ultra-wide sensor.

You get a 4,500mAh battery, and the phone lasted us an entire day of casual use – even with Wi-Fi turned off and 5G on. Sadly, there's no wireless charging with this handset, but you do get a 65W charger in the box, helping to juice the phone back up to 100 per cent in just 30 minutes.

[Buy now](#) £399.00, Amazon.co.uk

Samsung Galaxy S20 FE

Best: Mid-range Samsung 5G phone

Rating: 8/10

- * Dimensions: 159.8mm x 74.5mm x 8.4mm
- * Screen size and resolution: 6.5in, 1,080 x 2,400px, 407ppi
- * Storage capacity: 128GB/256GB with expandable storage
- * Screen technology: Super AMOLED, 120Hz, HDR10+

- * Camera (rear): 12MP wide, 8MP telephoto, 12MP ultra-wide
- * Camera (front): 32MP
- * Weight: 190g
- * Headphone jack? No
- * Wireless chargeable? Yes
- * OS: Android 11, One UI 3.1
- * Battery: 4500mAh
- * Water resistance: IP68 (1.5m for 30 minutes)

The fan edition of the Samsung Galaxy S20 is essentially a flagship phone packaged up and sold at a mid-range price point. It's the iPhone 12 for Samsung fans, and it's splendid overall, despite not being the newest model around.

There's no curvature to the S20 FE, like with many Samsung phones. Instead, it has a flat front and relaxed matte design on the sides and rear. There's a large 6.5in (2,400 x 1,080px) 120Hz AMOLED display, providing you with ultra-smooth scrolling that's ideal for mobile gaming. Plus it runs on Qualcomm's speedy Snapdragon 865 processor and boasts 6GB of RAM and 128GB of internal storage.

What about the cameras? Well, the triple-camera system on the rear takes some vivid (albeit a little high-contrast for some) photos. It's got a 12MP f/1.8 main camera; a 12MP f/2.2 wide-angle camera and an 8MP f/2.4 3x telephoto lens. On the front, there's a 32MP lens. It's essentially the same as the flagship S20.

On top of that, the 4,500mAh battery is absolutely massive, and will last you more than a day and a half of use, even with 5G turned on. Plus, it's got wireless charging, reverse charging – so you can charge up your buds – and 22W fast charging. The handset also comes in a huge number of attractive colours including mint, lavender, orange, navy, mint, red and white.

[Buy now](#) £699.00, Amazon.co.uk

Huawei mate 40 pro 5G

Best: Camera

Rating: 7/10

- * Dimensions: 162.9mm x 75.5mm x 9.1mm
- * Screen size and resolution: 6.76in, 1,344 x 2,772px, 456 ppi
- * Storage capacity: 128GB/256GB/512GB
- * Screen technology: OLED, 90Hz, HDR10
- * Camera (rear): 50MP wide, 12MP periscope telephoto, 20 MP ultra-wide
- * Camera (front): 13MP ultrawide, TOF 3D, depth/biometric sensor
- * Weight: 212g
- * Headphone jack? No
- * Wireless chargeable? Yes
- * OS: Android 10, EMUI 11, no Google Play Services
- * Battery: 4400mAh
- * Water resistance: IP68 (1.5m for 30 minutes)

The Huawei mate 40 pro is absolutely gorgeous and is one of the company's best-designed phones to date. It features an all-glass body and a futuristic-looking camera module, which Huawei calls a space ring, like something that's walked right out of the set of Black Mirror. The display curves down on the sides, making the

bezels almost disappear. This does make them stick out a little on the top and bottom, however, plus the pill-shaped front-facing camera module really did get in the way sometimes.

The phone has a 6.9in OLED display with a 90Hz refresh rate – it's no 120Hz, of course, but it still looks pretty smooth. There's also a speedy in-display fingerprint sensor and a 3D face scanner. While the camera bump is, well, a little unusually designed, the camera itself is mighty impressive. On the rear, you get a punchy 50MP, f/1.9 main camera, a 20MP ultra-wide lens and – our favourite – a 12MP 5x periscope zoom.

Spec-wise, it's frankly top of the range, boasting Huawei's own Kirin 9,000 processor with 5G integration. It's also got 8GB of RAM and 256GB of storage. But despite having a pretty hefty 4,400mAh battery, it only just about kissed the end of the day, although we've seen phones with similar-sized batteries last longer. You do get a "supercharge" 66W charging brick in the box though, which charges it fully in a rapid 47 minutes. There is a nice 5W reverse wireless charging feature on the rear as well.

It's got one major handicap though. Due to the legal wrangling with the US government, the mate 40 pro doesn't contain any Google services – no YouTube, no Google Maps and, worst of all, no Google Play Store. It's the third Huawei phone without Google services. It does run Android but has an EMUI 11 OS skin. We can't fault the hardware, it's just the software that lets this phone down.

[Buy now](#) £1099.99, Huawei.com

Motorola moto G 5G plus

Best: Budget 5G phone

Rating: 7/10

- * Dimensions: 168.3mm x 74mm x 9.7mm
- * Screen size and resolution: 6.7in, 1,080 x 2,520px, 409 ppi
- * Storage capacity: 64GB/128GB with expandable storage
- * Screen technology: LCD, 90Hz, HDR10
- * Camera (rear): 48 MP wide, 8MP ultra-wide, 5MP macro, 2MP depth
- * Camera (front): 16MP normal, 8MP ultrawide
- * Weight: 207g
- * Headphone jack? Yes
- * Wireless chargeable? No
- * OS: Android 10
- * Battery: 5,000mAh
- * Water resistance: Water-repellent coating

While you might have forgotten all about Motorola since its heyday in the Noughties, the phone manufacturer, which is now owned by Lenovo, is continuing to bring handsets to the masses. 5G phones aren't cheap, but with the moto G 5G plus, you're getting a premium-sized phone with 5G capabilities for under £300.

It doesn't look the most appealing, with its thick, all-plastic design, plus it's only got one speaker on the bottom, so it's a little cumbersome to watch videos on. But the LED screen with its 90Hz refresh rate is bright and colourful, more than making up for the lacklustre design. There's also a fingerprint sensor in the lock button, as well as a headphone jack at the bottom.

It's powered by the Snapdragon 765G chip. Although it's not a top-of-the-range processor, we still found the moto G to be smooth despite some issues with the speed of switching between apps. It also comes with either 4GB or 6GB of RAM, which is decent for a budget device. Opt for the 6GB model if you fear you'll run into memory issues while multitasking.

There are four cameras on the rear, but the only one worth writing home about is the main 48MP sensor, which has a f/1.7 lens. Pictures came out sharp and clear, despite shooting at 12MP by default. It's also got an 8MP ultra-wide camera, a 5MP macro lens and a 2MP depth sensor. Like we said, nothing to write home about. On the front, you've got two cameras instead of one – a main 16MP f/2.0 camera and an 8MP f/2.2

ultra-wide option. We were pretty fond of the secondary camera, simply because it made taking group selfies much easier. The camera app did take a while to load at points, however.

In terms of battery life, you've got a beefy 5,000mAh capacity – the largest on the list – meaning we had no problem getting through a couple of days of watching Netflix and browsing Twitter. It even sometimes kicked its way into a third day. It won't blow your mind, but for a 5G phone at this price point, it can't be beaten.

[Buy now](#) £229.99, [Amazon.co.uk](#)

5G phone FAQs

Is 5G available in the UK?

It sure is. EE launched the UK's first 5G service in May 2019. It initially covered London, Birmingham, Edinburgh, Cardiff, Belfast and Manchester. It [now covers](#) 160 towns and cities. All of the four major networks now provide 5G – now including Vodafone, Three and O2. The providers hope that by 2022, the whole of the UK should be able to access 5G.

How is 5G different from 4G?

5G is up to 10 times faster than 4G. That's because 5G uses smaller wavelengths and much higher frequencies than its predecessor. 5G can support a larger number of simultaneous connections than 4G. If you've ever been at a busy concert or a football match and have been greeted with a "no service" message, it's because the 4G mobile connection can't cope with all those connected devices. 5G remedies this problem.

Another difference is that 5G can transmit more data over a band of frequencies than 4G, meaning it'll be easier to download a Netflix show, or watch it without buffering.

The verdict: 5G phones

If you want a 5G phone that ticks every box, you can't go wrong with the [iPhone 12 pro max](#). Apple's premium smartphone is a great option that's packed with a snappy processor, a splendid camera, a gorgeous design and display, and the latest MagSafe technology.

If you want something cheaper, but which doesn't skimp on the smarts or the hardware, take a look at the [Samsung Galaxy S20 FE](#), or the slightly more budget [OnePlus nord 2](#). And if you really, really want a 5G phone but can't pay more than £300, let us introduce you to the [moto G 5G plus](#). Any of the phones above are solid options, though, and they'll all have you watching and browsing at flaming next-gen speeds.

Tariff comparison

For the latest offers on mobile phone contracts, try the links below:

* [Mobile phone deals](#)

* [Best iPhone deals](#)

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Getting a SIM-only contract? Our

[buying guide](#)

covers all you need to know about finding the best deal for you

Document INDOP00020210817eh8h005br



The Ratings Game

Unity Software stock jumps 10% as analysts credit it with dodging Apple's online-ad crackdown

714 words

12 August 2021

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MarketWatch

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English

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After **Apple** limited the amount of data that app developers could get on users, Unity found a workaround that is helping its customers continue to advertise effectively, analysts say

Unity Software Inc. shares rose Wednesday after analysts applauded the **gaming**-software company's growth and its ability to dodge a major change **Apple** Inc. made to online advertisements.

Unity U shares rallied more than 10% Wednesday, having last reached an intraday high of \$119.45 — a contrast to [the stock's after-hours performance late Tuesday, when it fluctuated between slight gains and losses](#) — as Wall Street chimed in on the company's quarterly report and outlook. Unity raised its outlook for the year late Tuesday following a strong quarter and announced the acquisition of remote-desktop and streaming-technology company Parsec for \$320 million, or nearly a third of its ready cash. That all comes less than a year after [Unity's IPO](#).

Wedbush analyst Michael Pachter, who has an outperform rating and raised his price target to \$129 from \$125, expects "significant top-line growth for several years" from Unity after it pulled off an end-around with Apple Inc. AAPL. [Earlier in the year](#), Apple opted out of using Identifier for Advertisers, or IDFA, in its privacy update, a move that worried many companies such as Facebook Inc. FB that rely upon ad revenue. IDFA is like a cookie that's attached to a specific device like a smartphone rather than a browser to collect user information to better target ads.

For more: [Why Facebook is considering an antitrust lawsuit against Apple](#)

Pachter noted that Unity's Operate Solutions business, which helps developers make money on their games and content through ads, drove much of the company's growth as it worked around the IDFA change by using ad models that didn't rely on data from Apple but used data from an end user's engagement and platform performance data.

"As a result, the Unity platform is able to analyze 50 billion in-app events on a daily basis across 20 different platforms, offering customers access to vast amounts of data," Pachter said.

Stifel analyst Tom Roderick, who has a buy rating and raised his target price to \$135 from \$125, said "if there was any controversy to find around Unity, it was most certainly the question of whether or not IDFA would create a genuine headwind for the company."

"The controversy from here will be the forward guide, as it calls for a sequential revenue downtick in Q3, though we think traditional back to school seasonality and broader conservatism puts keeps this beat and raise story right on track," Roderick said.

Barclays analyst Mario Lu, who has an equal weight rating and raised his price target to \$105 from \$90, expects Unity to continue to benefit as digital advertising changes.

"We think Unity will likely stand to continue to benefit from the changing advertising ecosystem due to being able to leverage data from 3B+ [monthly active users] using Unity developed apps to generate better ROI compared to its peers," Lu said.

Of the announced acquisition, Lu said Parsec "enables companies to work together anywhere, particularly useful in handling rigorous processes such as the Unity Engine, allowing Unity to increase its pace of adoption in both gaming and verticals outside of gaming such as entertainment and architecture."

Oppenheimer analyst Martin Yang, who has an outperform rating, said he was encouraged in the uptick of nongaming customers using Unity to use digital content to attract customers.

“We are encouraged by management’s M&A activities to augment its products and game engine features targeted at vertical customers, which may provide usage-based revenue streams in addition to per seat based subscription sales,” Yang said.

Of the 12 analysts that cover Unity, nine have buy ratings, two have hold ratings, and one has a sell rating. Of those, five analysts hiked their price targets resulting in an average \$130.64, up from a previous average of \$124.80, according to FactSet data.

AppLovin Corp. APP, another player in the app monetization business [coming off a recent IPO](#), reports its quarterly results after the market close on Wednesday.

Document MRKWC00020210811eh8b00335

Press Release: Parallels Desktop 17 for Mac Unveils Powerful New Features for Both Apple M1 and Intel Chip, Ready for Windows 11 and macOS Monterey

2,091 words

10 August 2021

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Dow Jones Institutional News

DJDN

English

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Packed with must-have performance and graphic improvements, an enhanced Windows **gaming** experience, plus the world's first macOS Monterey virtual machine running on Mac with **Apple** M1 chip, Parallels Desktop 17 makes it more seamless than ever to work across platforms.

BELLEVUE, Wash., Aug. 10, 2021 (GLOBE NEWSWIRE) -- Parallels

https://www.parallels.com/?utm_source=PR&utm_content=ParallelsDesktop17, a global leader in cross-platform solutions, announces the launch of Parallels(R) Desktop 17 for Mac ([parallels.com/desktop](https://www.parallels.com/desktop) https://www.parallels.com/desktop/?utm_source=PR&utm_content=ParallelsDesktop17), the latest version of its powerful solution to run native Windows applications on Mac computers with Apple M1(1) and Intel chip. Parallels Desktop 17 for Mac, now a universal binary application, is optimized for the highly anticipated Windows 11 and macOS Monterey operating systems. Bringing exceptional speed and graphic improvements, it includes an enhanced Windows gaming experience, together with better resource management and visibility. Parallels Desktop 17 for Mac empowers users to run Windows applications on a Mac, more smoothly and faster than ever.

"Our breakthrough of seamlessly running Windows 10 applications on Apple M1-based Mac computers was just the start of Parallels Desktop for Mac's new chapter in offering enhanced user experiences running virtual machines on Mac devices," said Nick Dobrovolskiy, Senior Vice President of Engineering and Support at Parallels. "Parallels Desktop 17 for Mac continues to deliver performance and stability improvements as well as innovative, easy-to-use features on Intel and Apple M1 Mac, offering users the most advanced Windows-on-Mac experience ever. In collaboration with Apple, we're thrilled to have created the world's first prototype of a macOS Monterey virtual machine running on a Mac with Apple M1 chip(2) ."

Watch a video about the highlights in Parallels Desktop 17: www.parallels.com/NEWParallelsDesktop17

New and Enhanced Feature Highlights of Parallels Desktop 17 for Mac:

-- NEW! Engineered for macOS 12 Monterey and Windows 11: Parallels Desktop 17 will support macOS Monterey as a host and guest operating system (OS) and will be optimized for Windows 11, with both new OSs expected later this year. Get a sneak peek and install the highly anticipated previews of macOS Monterey and Windows 11 to a virtual machine (VM) via the Parallels Desktop 17 Installation Assistant. Learn how to run macOS Monterey in a VM at parallels.com/blogs/macos-monterey/

[https://www.parallels.com/blogs/macos-](https://www.parallels.com/blogs/macos-monterey/?utm_source=PR&utm_content=ParallelsDesktop17)

[monterey/?utm_source=PR&utm_content=ParallelsDesktop17](https://www.parallels.com/blogs/macos-monterey/?utm_source=PR&utm_content=ParallelsDesktop17)

and how to run Windows 11 in a VM at parallels.com/blogs/Windows11

<https://www.parallels.com/blogs/Windows11> .

-- ENHANCED! Must-have Speed and Performance Updates: Applications running with Parallels Desktop 17 on Mac computers with Apple M1(1) and Intel chip now run remarkably faster and more efficiently. Performance observations include: On all supported Mac computers3:

-- Up to 38% faster Windows, Linux and macOS resume

-- OpenGL graphics perform up to 6 times faster

-- Up to 25% faster 2D graphics in Windows

On a Mac with Apple M1 chip3:

- Up to 33% faster Windows 10 on ARM Insider Preview start
- Up to 20% faster Windows 10 on ARM Insider Preview disk performance
- Up to 28% better DirectX 11 graphics performance

On a Mac with Intel processor3:

- Up to 60% faster network connection on macOS Big Sur (and newer) virtual machine
- NEW! Display Driver for an Enhanced Windows Gaming Experience: The improved display driver in Parallels Desktop 17 delivers much smoother Windows UI responsiveness and synchronized video playback experience. The new driver boosts the frame rate in many 2D action-platformer games including Foregone, Smelter and many others for a greater gaming experience.
- NEW! Powerful New Features for Apple M1 chip Mac: With Parallels Desktop 17, Windows 10 recognizes Mac battery status and enables battery saving when your Mac runs low of charge. The new virtual TPM chip enables Windows 10 and Windows 11 to use BitLocker and Secure Boot for the higher level of data protection. Enjoy multichannel sound support and jack presence detection with native drivers in Linux VMs. Conveniently use a Linux virtual machine in a windowed view mode with dynamic resolution support--resize the VM window and Linux will refresh the display for the new resolution automatically.
- ENHANCED! Coherence Mode Improvement: A long-time user favorite feature, Coherence(TM) Mode is now used by 80% of Parallels Desktop users, enabling them to run Windows applications and Mac applications side by side, without seeing the Windows desktop. Users now enjoy an uninterrupted and distraction-free workflow as all Windows shutdowns, updates and sign-in screens are windowed, enabling the user to minimize them to stay focused and productive.
- NEW! Automatic Resource Manager: Users can now experience the Automatic Resource Manager, designed to evaluate and advise on the optimal amount of Mac hardware resources for virtual machines to ensure the best performance every time.
- ENHANCED! Seamlessly Drag and Drop Content between Windows and Mac: Users now enjoy the ability to drop any text or image between Mac and Windows applications, including between Windows applications and macOS Monterey Quick Note (when available).
- ENHANCED! Advanced Experience and Support for USB Devices: In response to user feedback on USB device compatibility with virtual machines, Parallels Desktop 17 for Mac now supports USB 3.1, enabling use of additional USB storage devices4. Users now see the device's familiar name in the Parallels Desktop interface, making it easier to quickly identify the right device to connect or disconnect.
- ENHANCED! Better Control of Disk Space: As virtual machines--and notably VM snapshots-- can occupy a large amount of disk space, users can now see how much disk space their VM snapshots take up and make informed decisions about their Mac computer's disk space usage in Parallels Desktop 17.

Parallels Desktop 17 for Mac Pro Edition:

Designed to provide the best value to Parallels Desktop power users, developers and IT specialists, Parallels Desktop Pro Edition

https://www.parallels.com/products/desktop/pro/?utm_source=PR&utm_content=ParallelsDesktop17 is

Parallels' most popular selling version, offering all the power of the standard Parallels Desktop 17 for Mac, plus these unique capabilities:

- NEW! Easily Convert a Linked Clone to an Independent Virtual Machine: Responding to the demands of our users, Parallels Desktop 17 for Mac Pro Edition enables the creation of an independent virtual machine from a linked clone in just two clicks.
- ENHANCED! Improved Visual Studio Plugin: The Parallels Desktop plugin for Visual Studio, designed to debug code in a standalone VM, now supports Mac computers with Apple M1 chip. Moreover, the plugin installation process with Visual Studio 2019 has been simplified.

Parallels Desktop 17 for Mac Business Edition:

Delivering essential capabilities specifically for enterprise environments, Parallels Desktop 17 Business Edition https://www.parallels.com/products/business/?utm_source=PR&utm_content=ParallelsDesktop17 builds on the power of the Pro version with additional functionality, including:

- NEW! Corporate Virtual Machine Provisioning to Any Mac: Business administrators can now provision pre-configured Windows virtual machines to a mixed fleet of Mac computers with both Intel and Apple M1 chip. IT managers can now specify download links and descriptions in Parallels My Account for both Intel and Apple M1 chip Mac computers, and Parallels Desktop will automatically download the proper image for each individual employee.
- NEW! Deploy Parallels Desktop on a Multi-Architecture Mac Fleet with a Single Package: Parallels Desktop 17 is a universal binary application that makes it possible to create just one mass deployment package that can be used with both Intel- and M1-based Mac computers. With this new option, Parallels Desktop deployment using Mac Management tools and Self-Service Portal is remarkably simple.

Take a look at all the new features of Parallels Desktop 17 for Mac at [parallels.com/products/desktop/whats-new](https://www.parallels.com/products/desktop/whats-new).

https://www.parallels.com/products/desktop/whats-new/?utm_source=PR&utm_content=ParallelsDesktop17

NEW! Additional tools in Parallels Toolbox 5 for Mac and Windows

Parallels(R) Toolbox, which is included with Parallels Desktop subscriptions, introduced five new tools to its latest version. Focus on Window, Transform Text, Recognize Text, Barcode Scanner, and Barcode Generator have now been added to Parallels Toolbox's extensive library of more than 30 everyday utilities.

Availability and Pricing

Parallels Desktop 17 for Mac Standard, Pro and Business Editions are all designed to offer an optimal experience on both M1- and Intel-based Mac computers, and can be purchased at [parallels.com/desktop](https://www.parallels.com/desktop/?utm_source=PR&utm_content=ParallelsDesktop17) https://www.parallels.com/desktop/?utm_source=PR&utm_content=ParallelsDesktop17 or from authorized resellers worldwide. Parallels Desktop subscriptions include complimentary concurrent subscriptions to Parallels(R) Access 6.5 and Parallels Toolbox 5 for Mac and Windows.

For more information about Parallels products, to download free trial software, or purchase a subscription, please visit [parallels.com](https://www.parallels.com/?utm_source=PR&utm_content=ParallelsDesktop17) https://www.parallels.com/?utm_source=PR&utm_content=ParallelsDesktop17.

Recommended Retail Price (RRP)

10 Aug 2021 00:01 ET Press Release: Parallels Desktop 17 for Mac -2-

Parallels Desktop 17 for Mac

- Upgrade to a perpetual license -- US\$49.99
- New subscription -- US\$79.99 per year
- New perpetual license -- US\$99.99

Parallels Desktop for Mac Pro Edition

-- Upgrade from any edition -- US\$49.99 per year

-- New subscription -- US\$99.99 per year

Parallels Desktop for Mac Business Edition

-- US\$99.99 per year

About Parallels

Parallels is a global leader in cross-platform solutions that make it simple for businesses and individuals to use and access the applications and files they need on any device or operating system. Parallels helps customers leverage the best technology out there, whether it's Windows, Mac, iOS, Android or the cloud. Parallels solves complex engineering and user-experience problems by making it simple and cost-effective for businesses and individual customers to use applications anywhere, anytime. Parallels, a business unit of Corel, has offices in North America, Europe, Australia and Asia. Visit [parallels.com/about](https://www.parallels.com/about) https://www.parallels.com/about/?utm_source=PR&utm_content=ParallelsDesktop17 for more information.

About Corel

Corel products enable millions of connected knowledge workers around the world to do great work faster. Offering some of the industry's best-known software brands, we give individuals and teams the power to create, collaborate and deliver impressive results. Our success is driven by an unwavering commitment to deliver a broad portfolio of innovative applications -- including CorelDRAW(R), MindManager(R), Parallels(R) and WinZip(R) -- to inspire users and help them achieve their goals.

To learn more about Corel, please visit www.corel.com.

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1. Running VMs on Apple M1 Mac computers in Parallels Desktop 17 requires ARM-based operating systems (OSs). Customers who install guest operating systems in Parallels Desktop virtual machines are responsible for making sure that they are compliant with each OSs' end-user licensing agreement (EULA).
 2. Requires a Mac running macOS Monterey 12 or newer.
 3. Performance measurements conducted by Parallels. Measured with a prerelease version of Parallels Desktop 17 versus released version of Parallels Desktop 16. The performance will vary based on usage, system configuration and other factors.
 4. USB devices often require drivers. Not all vendors provide drivers for Windows on ARM, which may limit several supported devices on a Mac with Apple M1 chip.

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A video accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/d8baef2-3dc7-4adb-97df-a4dd3760fca0>

(END) Dow Jones Newswires

August 10, 2021 00:01 ET (04:01 GMT)

Document DJDN000020210810eh8a000e4



Tech

Shop the best student discounts and back-to-school sales at [Apple](#), Nike and more

Jon Winkler; Reviewed

1,022 words

5 August 2021

USA Today Online

USATONL

English

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Though August is still in the summer season, it also means it's almost time to go back to school. Whether kids are going back to local lockers, driving back to their dorm rooms or setting up their [virtual classroom](#), they'll need some new living essentials to get the most out of their education experience. Fortunately, the likes of [Apple](#), Best Buy, Nike and more are offering a helping hand.

Get expert shopping advice delivered to your phone. Sign up for text message alerts from the deal-hunting nerds at Reviewed.

More than 30 retailers and brand names are currently hosting back-to-school sales and offering student discounts this month. If you want to dress with style and comfort, Adidas and Express let you save big on eye-catching threads. Meanwhile, top-tier brands including Microsoft and Samsung have major price cuts on laptops and tablets.

Check out more fantastic deals to help you save money before the first school bell rings.

More: Here are 8 things to know about back-to-school shopping and how to avoid school supply shortages

The best back-to-school student discount events to shop right now

Tech

Apple: Receive complimentary AirPods and an education discount with the purchase of a Mac or iPad for college students through Monday, September 27.

B&H Photo: Save up to 30% when you join the B&H EDU Advantage program, free of charge.

Best Buy: Shop a wide variety of deals for college-bound kids, including \$400 off select Windows laptops and \$160 off select Beats Studio3 headphones.

HP: Register with your student email address to get everyday discounts of up to 35% off.

Lenovo: Get big-time student discounts on new laptops and computers.

Microsoft: Save up to \$800 on Surface laptops and up to \$400 on PCs.

Samsung: Save up to an extra 15% on smartphones, tablets, laptops and more through Sunday, October 3. You can also get a free set of Galaxy Buds Pro earbuds with purchases of Galaxy Tab S7+ or Galaxy Book tablets.

Streaming

Amazon Prime: Students can sign up for 6 free months of Amazon Prime, then pay just \$6.49 per month after that. Students can also get a year of Amazon Music Unlimited and Prime Video Channels each for \$0.99 a month, free food delivery with GrubHub and so much more.

Hulu: College students get access to a 65% discount, meaning they pay just \$1.99 a month for an ad-supported Hulu subscription.

Paramount+: Students currently enrolled at an accredited, Title IV college or university can save 25% on the Essential plan. Normally \$4.99 per month (or at a discount for committing to a year at \$49.99), the student discount brings the monthly price down to just \$3.74 per month.

Page 165 of 227 © 2022 Factiva, Inc. All rights reserved.

Clothing

Adidas: Get a special discount for U.S. college and university students, plus get free shipping on all orders.

Champion: Receive 10% off for actively enrolled college students.

Cole Haan: Students who register with a valid .edu email address will receive 20% off this brand's shoes and accessories.

Converse: College and university students in the U.S. will get 15% off all orders.

Crocs: Another collaboration with Student Beans, U.S. college and university students can enjoy 25% off the site.

Express: Get an extra 5% off on already-discounted apparel when you verify your student status.

J. Crew: Snag 15% off for all college and university students.

Kohl's: Through today, rewards members get an extra 20% off on back-to-school clothes and shoes with promo code BTS20.

Levi's: Peruse top-quality denim and more and get 25% off for all college and university students.

L.L. Bean: Shop 'til you drop with 10% off for all college and university students in the U.S.

Macy's: Use the promo code BTS to get up to 50% off on back-to-school gear with an additional 20% off through August 8.

Madewell: Members of the Madewell Insider program can get 15% off in-store and online. Discounts will be valid for one calendar year and applied to eligible items in your bag.

Moosejaw: Receive 20% off full-price purchases for college students.

Nike: Up to 50% off styles through August 7. As part of the Nike student discount, you can also get 10% when you verify your student status with SheerID.

Puma: Get 10% off for all U.S. college and university students.

Reebok: Nab 30% off sitewide for college students aged 16 and older.

The North Face: At this retailer, U.S. college and university students can get 10% off their orders.

Under Armour: College students who register online can get an extra 20% off purchases.

Zappos: Receive 10% off for U.S. college and university students.

Home and bedding

Bed Bath and Beyond: Get 20% off every purchase when you sign up for the outlet's College Savings Pass. Shoppers also get free shipping for orders over \$39. Both deals run through Thursday, September 30.

Blue Apron: Both new and returning customers that are college students and teachers can get \$100 off their first five boxes.

Brooklyn Bedding: Receive 25% off and get free shipping for all universities or colleges based in the U.S.

Home Chef: In collaboration with Students Beans, new customers who register can get 55% off of your first meal kit order.

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Prices were accurate at the time this article was published but may change over time.

This article originally appeared on Reviewed: Shop the best student discounts and back-to-school sales at Apple, Nike and more

Document USATONL020210805eh85001ef

Conduent Transportation Introduces Contactless Payment Across Public Transportation Network in Bergamo, Italy

758 words

5 August 2021

Gulf Daily News

GUDAN

English

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(GlobeNewswire) - Conduent Transportation, a global business unit of Conduent Incorporated (Nasdaq: CNDT), today announced the successful implementation and rollout of a contactless payment system that allows tickets to be purchased directly on board buses and funicular railways managed by Azienda Trasporti Bergamo (ATB) and trams managed by its associated company, Tramvie Elettriche Bergamasche (TEB). Nearly 600 contactless validators have been installed on all vehicles in the ATB and TEB network that serves a population of approximately 380,000 residents.

Conduent validators allow riders to access the services using major contactless credit and debit cards, including Visa, Mastercard, Maestro, American Express, and NFC-enabled devices. These devices include smartphones and smart watches with **digital wallets**, such as Google Pay, **Apple** Pay and Samsung Pay.

A Media Snippet accompanying this announcement is available by clicking on the image or link below:

The contactless payment system on ATB and TEB vehicles uses account-based ticketing, which means the ticket is not stored on a device or other media, such as a smartphone or smart card, but in the cloud. This enables a range of devices or media to be securely linked via the cloud to the passengers account in the back office, making travel easier and more connected.

Contactless payment demonstrates the ATB Groups continued push for innovation across our entire transportation network, said Gianni Scarfone, General Manager of ATB and CEO of TEB. Conduents user-friendly technology enables us to offer the best modern transport experience and ensure that we have a strong relationship between the company and the users of our services."

In April this year, ATB and TEB also rolled out a new system to monitor the maximum number of passengers on buses and trams. The system, implemented by Conduent, enables the two companies to comply with government regulations issued in response to the COVID-19 pandemic, which requires a passenger capacity of no more than 50 percent of the standard on these modes of transportation.

Over the last 12 months, Conduent has worked closely with ATB and TEB to implement two systems that strengthen and significantly enhance the transportation experience for residents of Bergamo, said Jean-Charles Zaia, General Manager, Public Transit at Conduent. The introduction of contactless payment across the transportation network allows quick access and interoperability across all the modes of transportation, making this one of the leading networks in Europe.

Conduent Transportation is a leading provider of automated and analytics-based transportation solutions for government agencies. These solutions, spanning roadway charging and management, parking and curbside management, and advanced transit and public safety systems, enable streamlined and personalized services for citizens and travelers who use them. The company has been helping transportation clients for more than 50 years and operates in more than 20 countries.

About Conduent

Conduent delivers mission-critical services and solutions on behalf of businesses and governments creating exceptional outcomes for its clients and the millions of people who count on them. Through process, technology and our diverse and dedicated associates, Conduent solutions and services automate workflows, improve efficiencies, reduce costs and enable revenue growth. Its why most Fortune 100 companies and over 500 government entities depend on Conduent every day to manage their essential interactions and move their operations forward.

Conduents differentiated services and solutions improve experiences for millions of people every day, including three out of every four U.S. insured patients, 10 million employees who use its HR Services, and nearly 18 million benefits recipients. Conduents solutions deliver exceptional outcomes for its clients including \$16 billion in savings from medical bill review of workers compensation claims, up to 40% efficiency increase

in HR operations, up to 27% reduction in government benefits costs, up to 40% improvement in finance, accounting and procurement expense, and improved customer service interaction times by up to 20% with higher end-user satisfaction. Learn more at www.conduent.com.

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Document GUDAN00020210805eh85000b7



Business

Big Tech booms even as lockdown living wanes

673 words

1 August 2021

21:30

Shanghai Daily Online

SHNDOL

English

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Big Tech goliaths like Facebook and Amazon unveiled whopping profits last week, showing their dominance in lockdown lifestyles is on course to grow well beyond the pandemic. "Tech wins the day, the week, and seemingly the year," Futurum Research analysts said of the surging revenues, driven by digital advertising, cloud computing, **gaming** and booming use of smartphones and e-commerce. "The strength of tech is clearly untethered from the pandemic," they added. Powerhouses Facebook, **Apple**, Microsoft and Google parent Alphabet all reported higher revenues even as they face heightened scrutiny from antitrust regulators for their growing dominance of key economic sectors. Amazon's second-quarter profit jumped 48 percent from a year ago to US\$7.8 billion, even if that showing was below high Wall Street forecasts. A growing number of consumers turned to Amazon during the pandemic to get everything from tofu to toilet paper, and its cloud computing division also grew to help businesses and consumers

stay connected. The Amazon results capped a series of earnings from the major tech firms that benefited from successive lockdowns, but also the gradual lifting of restrictions. Also last week, Apple said its profit in the just-ended quarter nearly doubled amid improving consumer spending and a "growing sense of optimism" as pandemic lockdowns eased. Revenue from iPhone sales jumped some 50 percent and Apple posted increases for its services such as digital payments, music, streaming television and gaming. Facebook reported its profit doubled in the recently ended quarter as digital advertising surged, but warned of cooler growth in the months ahead in an update which sent its shares sinking. Google parent Alphabet reported quarterly profit that had nearly tripled, as money poured in from ads on its search engine and YouTube video platform. Revenue at the global video sharing platform topped US\$7 billion, a leap from the US\$3.8 billion brought in during the same period a year earlier, according to Alphabet. Techspontential analyst Avi Greengart said that hybrid work, online entertainment and Internet shopping are now facts of life. "Those are overarching trends that got accelerated by the pandemic but aren't going away," he added. However, a gradual resumption of in-person activities will require adjustments from Big Tech. Amazon Chief Financial Officer Brian Olsavsky said on an earnings call that a reason for missing revenue expectations appeared to be vaccines giving people the confidence to leave home. "Not only shopping offline but also living life and getting out," Olsavsky said. "It takes away from shopping time. It's a good phenomenon and it's great." Regulators' wary gaze Alphabet Chief Executive Sundar Pichai credited long-term investments in artificial intelligence and cloud computing as powering the internet giant's performance. Google's cloud computing business competes with powerhouses Amazon and Microsoft, poising them to vie for virtual terrain in an immersive online world. Microsoft reported a jump in profits in the recently ended quarter last week, keeping strong momentum from accelerated gains in cloud computing during the pandemic. Transition to relying on computing power and services in the internet cloud as well as working remotely are likely to last, playing to the strength of tech giants powering such platforms, according to Wedbush Securities analyst Dan Ives. However, a global chip shortage has hobbled production of the wide range of devices enhanced with computing and internet capabilities, from cars to video game consoles. And, as US tech titans gain clout and wealth, they are increasingly in the crosshairs of government regulators wary of monopolistic abuses and sidestepped taxes. Despite political pressure, the tech companies continue to spend on bolstering and expanding their offerings. Amazon made a deal early this year to buy iconic Hollywood studio Metro-Goldwyn-Mayer for US\$8.45 billion in a move aimed at strengthening its Amazon Prime television streaming service. Apple is working on self-driving car technology, while Alphabet is already testing a "robo-taxi" service in the United States with its Waymo unit.

Document SHNDOL0020210805eh810005k

The Sydney Morning Herald

Business

CBA's chief warns on Apple's 'tremendous market power'

Clancy Yeates

569 words

28 July 2021

The Sydney Morning Herald

SMHH

First

22

English

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Banks

Commonwealth Bank chief executive Matt Comyn has sounded a warning over **Apple's** growing dominance in **digital wallets**, accusing the technology giant of choking off competition in a key part of the payments market.

Appearing before a parliamentary inquiry yesterday, Mr Comyn said Apple controlled 80 per cent of the market for tap-and-go payments made through smartphones, and warned such market power should be a concern to lawmakers.

The chief of the country's largest bank also said Apple paid "very minimal" corporate taxes in Australia, and said it made no contribution to the cost of sustaining payments infrastructure.

Digital wallets, which allow consumers to make tap-and-go purchases, have surged in popularity during COVID-19, and CBA believes they will become the most popular form of contactless payment by the end of this year.

Mr Comyn said the restrictions that Apple placed on the iPhone's technology, in contrast to Google's more open approach, were stifling competition because they stopped banks and fintechs from developing their own iPhone digital wallets.

"The thought that a single provider could have 80 per cent market share in an individual market is usually cause for concern. I'd be the first to say they make fantastic products, but this is a company that's market cap is double Australia's gross domestic product," Mr Comyn said.

"They make great products, they're an enormous company, they have tremendous market power, and they use it."

Apple is both a partner and a competitor for banks. The lenders, several of which had an unsuccessful battle with the tech giant last decade, pay Apple an undisclosed fee in return for being able to provide its payment service Apple Pay. Mr Comyn said providing Apple Pay was now seen as "largely essential" for banks.

Specifically, Mr Comyn took aim at Apple's policy of restricting third parties' access to the near-field communication (NFC) chip on the iPhone, which allows tap-and-go payments through a handset. To access the chip, banks must send payments via Apple Pay. Google does not have such restrictions, and nor does it charge banks for its payment service.

Mr Comyn said Apple's restrictions over access to the NFC chip meant the bank was unable to develop effective digital wallets to compete with Apple Pay.

The Australian Competition and Consumer Commission's executive general manager for exemptions and digital, Tom Leuner, said access to the NFC could potentially be a major competition issue, though it had not done a "deep dive" on the topic.

Against CBA's concerns, the regulator must also consider the pro-competition effect of technology giants disrupting the financial sector.

Apple was invited to appear before the committee, chaired by Liberal National Party MP Andrew Wallace. However, it declined on the basis it has provided a submission and answered questions on notice instead.

In its submission to the committee, Apple said its policies on access to the NFC chip were in part driven by security concerns. However, Mr Comyn questioned this claim by saying CBA's data showed there was no difference in fraud rates between different types of digital wallets.

"Given their enormous resources and technical capability I find it difficult to believe that they couldn't provide reasonable access in a secure way," Mr Comyn said.

Document SMHH000020210727eh7s0000z

FINANCIAL REVIEW

Companies and Markets

Banks forcing closure of BNPL accounts: Zip

James Eyers

657 words

27 July 2021

The Australian Financial Review

AFNR

First

17

English

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Australia's banks and US tech giant **Apple** have separately been accused of potentially anti-competitive behaviour, with Zip fingering banks for forcing the closure of buy now, pay later accounts before approving mortgages and the Reserve Bank raising concerns about **Apple's** limits on access to its iPhone payments wallet.

In provocative testimony to a joint parliamentary committee investigating the rise of **digital wallets**, Zip co-founder Peter Gray said the most common cause of Zip account closures was a demand from a bank before agreeing to write a mortgage. Committee chairman Andrew Wallace said the conduct sounded like a form of "third-line forcing".

Banks assessed buy now, pay later accounts in "a negative light", Mr Gray said, adding: "I can confirm to the committee the No. 1 reason for customers closing their Zip account is the bank has told them they need to, to proceed with the mortgage."

But Mr Gray said the average Zip customer had a higher credit score than those seeking bank finance, and forcing buy now, pay later accounts to be closed was more likely motivated by "the level of engagement our service has with customers" and Zip representing "a competitive threat".

He suggested banks were using their market power to cross-sell the mortgage customer a more expensive credit product.

"It is potentially one for the banks to answer, but are they instructing their customers to close buy now, pay later accounts to have a mortgage settled and then offering them a credit card in lieu of them closing that account?" he asked the committee.

Commonwealth Bank CEO Matt Comyn will appear before the committee this morning and might be asked to respond to Mr Gray's suggestions.

During an earlier appearance yesterday, RBA head of payments Tony Richards suggested it could be the banks who were being disadvantaged by a larger player, Apple.

The RBA's submission to the committee pointed to restrictions Apple places on access to the "near field communications" (NFC) chip in iPhones, which communicates with tap-and-go terminals. "There certainly are potential competition issues with respect to access to the NFC chip," Dr Richards told the committee.

Given the growth of digital wallets, the RBA is interested in knowing more about the costs Apple imposes on banks for use of its hardware, but Dr Richards said because the tech giants do not fall within the legal definition of payments systems, the RBA was not able to request data directly, or lead any potential action on the NFC restrictions.

"If we did have serious concerns here, we would work in conjunction with the ACCC, but they would have to take the lead role," he said.

He cautioned banks that even if some access regulation for the NFC was put in place, "it is probably not the case that entities would get access to the NFC chip and get that for free".

"I suspect the concerns of the banks are more along the lines of 'While it is a small fee [paid to Apple] now, it could become a much bigger fee in the future'," Dr Richards said.

Executives from the Australian Competition and Consumer Commission will appear before the committee today. Apple told the committee in a submission that Apple Pay was pro-competitive. It has denied it restricts banks' mobile banking apps from making NFC payments.

The committee also took evidence on Macquarie's restrictions on access to the Eftpos debit network, after Macquarie Bank issued "single network" debit cards that do not allow customers or merchants to route transactions to the domestic scheme.

The hearings on Monday showed the committee is examining the payments system as piece of critical infrastructure that will affect competition, data sovereignty and potentially national security. It comes as ASIC reviews ePayments and while Treasury and the RBA are conducting separate reviews of retail payment regulation.

Document AFNR000020210729eh7r0001I

Apple's Other Devices Also Saw Significant Sales Growth -- Market Talk

1,010 words

28 July 2021

03:21

Dow Jones Institutional News

DJDN

English

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1751 ET - Aside from iPhones, sales of every category of **Apple** device continued to grow. The last four quarters of sales in its Mac computer division were the highest ever, and quarterly revenue for Macs rose 16%, driven by interest in new company-designed chips. Sales in its wearables unit, which includes products such as the **Apple** Watch and headphones such as AirPods, rose 36% to \$8.78B. (bradley.olson@wsj.com)

1750 ET - Microsoft's success under CEO Satya Nadella has largely been linked to his bet on cloud computing. But the CEO says the company is much more than that. "In the past 3 years alone, **gaming**, security and now LinkedIn have all surpassed \$10 billion in annual revenue," he said on an earnings call. (meghan.bobrowsky@wsj.com)

1749 ET - 17:49 ET - Retailers accounted for the biggest portion of Google's advertising gains during the quarter. Alphabet Chief Business Officer Philipp Schindler said that the company's decision last year to list brands that weren't paid advertisers in its Shopping tab increased listings and lifted sales. He said that merchants that used both free listings and shopping ads netted a 50% increase in clicks. "That's pretty impressive," he said. Travel, financial services and media also were large contributors to ad sales growth, he said. (tripp.mickle@wsj.com)

1741 ET - In China, Apple sales rose 58% to \$14.76B compared to the April-to-June period a year ago, although that was down slightly from January-to-March, the first full quarter after Apple unveiled its new 5G phones in the country. Customers in China tend to pay closer attention to new features, and revenue from the country typically accounts for 15% to 20% of Apple's total sales, according to Bernstein. (bradley.olson@wsj.com)

1712 ET - IQVIA Holdings raises its guidance for 3Q revenue growth to between 18.1% and 20.8% over the previous year. IQVIA, a provider of advanced analytics, technology solutions, and clinical research services to the life sciences industry, issued the guidance along with reporting 2Q earnings growth that beat expectations. IQVIA reported 3Q revenue growth of 36.4% year-over-year. (Patience.Haggin@wsj.com)

1704 ET - IQVIA Holdings repurchased \$45M of its common stock during 2Q, the company announced in its quarterly report. The North Carolina-based provider of advanced analytics, technology solutions, and clinical research services to the life sciences industry had \$822M of share repurchase authorization remaining on June 30, according to its press release. The company traded at a market capitalization of \$46.6 billion on Tuesday afternoon. (Patience.Haggin@wsj.com)

1700 ET - Chip-maker AMD says it made \$1.6B in revenue in the division that houses its datacenter chips, besting a Wall Street forecast of \$1.44B and offering another indication that demand for computing hardware continues to be strong as more companies transition back to the office. Last week, Intel, AMD's main competitor in the market for central processing units, cited higher demand from companies as a driving factor in its data center group's results coming in ahead of earlier guidance. AMD has eaten away at Intel's dominant share in datacenter chips in recent quarters, giving a further boost to its sales. (asa.fitch@wsj.com)

1657 ET - Curious how the pandemic helped Google? Look no further than Bed, Bath & Beyond. Google Chief Business Officer Philipp Schindler said the retailer pivoted to curbside pickup last year and same-day delivery. It continued offering that service across Google as the economy reopened and tapped YouTube to build awareness for its own brands. Retail was a major driver of Google's search and advertising for the period, the company said. (tripp.mickle@wsj.com)

1652 ET - Hallmark Cards has introduced a new service that lets people handwrite a note and add it to a paper greeting card, without buying a stamp. The feature, called Sign and Send, was released in late June. Hallmark hopes the convenience of the new feature will encourage people to send more cards, said Lindsey Roy, chief marketing officer at Hallmark. Consumers, particularly younger generations, will end up using a service like this because they want speed and convenience, said Jeannie Walters, chief executive of Experience Investigators, a customer-experience consulting firm. (ann-marie.alcantara@wsj.com)

1649 ET - 16:44 ET - Google's advertising business overshadowed strong sales growth of its cloud-computing division. The company has been spending aggressively to challenge the dominance of Amazon and Microsoft in the lucrative business of cloud storage. It reported cloud sales rose 54% to \$4.63B in the quarter. The division's revenue exceeded analysts' expectations. CEO Sundar Pichai says that the company added customers including PayPal and Whirlpool. (tripp.mickle@wsj.com)

1643 ET - After better-than-expected 2Q results, Mattel raises its sales and Ebitda outlook for the year. The toy company expects sales to grow between 12% and 14% this year, up from a prior view of up to 8% growth. The new Ebitda projection is for between \$875M and \$900M, an increase of \$75M. Mattel shares add 3.7% in after-hours trading. (paul.ziobro@wsj.com ; @pziobro)

1643 ET - Apple reported record April-to-June profit of \$21.7B, the best fiscal 3Q in its 45-year history, and revenue of \$81.4B beat analyst expectations. The company's performance was driven by strength in iPhone sales, which rose 50% to \$39.6B in the period. Apple last year released a smartphone with 5G connectivity, a feature that continues to entice customers to upgrade their devices. Shares fall 0.4% after hours. (bradley.olson@wsj.com)

Corrections & Amplifications

This item was corrected at 6:37 p.m. ET. An earlier version misstated Google Chief Business Officer Philipp Schindler's name as Phillip Schindler.

(END) Dow Jones Newswires

July 27, 2021 17:51 ET (21:51 GMT)

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FINANCIAL REVIEW

Zip accuses banks of anti-competitive behaviour, RBA eyeing Apple

James Evers

913 words

26 July 2021

13:59

AFR Online

AFNROL

English

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Australia's banks and US tech giant **Apple** have separately been accused of potentially anti-competitive behaviour, with Zip fingering banks for forcing the closure of buy now, pay later accounts before approving mortgages and the Reserve Bank raising concerns about **Apple's** limits on access to its iPhone payments wallet.

In provocative testimony to a [joint parliamentary committee investigating the rise of digital wallets](#), Zip co-founder Peter Gray said the most common cause of Zip account closures was a demand from a bank before agreeing to write a mortgage. Committee chairman Andrew Wallace said the conduct sounded like a form of "third-line forcing".

Banks assessed buy now, pay later accounts in "a negative light", Mr Gray said, adding: "I can confirm to the committee the No. 1 reason for customers closing their Zip account is the bank has told them they need to, to proceed with the mortgage."

[But the average Zip customer](#) had a higher credit score than those seeking bank finance, and forcing buy now, pay later accounts to be closed was more likely motivated by "the level of engagement our service has with customers" and Zip representing "a competitive threat", Mr Gray said. He suggested banks were using their market power to cross-sell the mortgage customer a more expensive credit product.

"It is potentially one for the banks to answer, but are they instructing their customers to close buy now, pay later accounts to have a mortgage settled and then offering them a credit card in lieu of them closing that account?" he asked the committee.

Commonwealth Bank CEO Matt Comyn will appear before the committee on Tuesday morning and might be asked to respond to Mr Gray's comments.

During an earlier appearance on Monday, RBA head of payments Tony Richards suggested it could be the banks who were being disadvantaged by a larger player, Apple.

The RBA's submission to the committee pointed to restrictions Apple places on access to the "near field communications" (NFC) chip in iPhones, which communicates with tap-and-go terminals. "There certainly are potential competition issues with respect to access to the NFC chip," Dr Richards told the committee.

Given the growth of digital wallets, the RBA is interested in knowing more about the costs Apple imposes on banks for use of its hardware, but Dr Richards said because the tech giants do not fall within the legal definition of payments systems, the RBA was not able to request data directly, or lead any potential action on the NFC restrictions.

"If we did have serious concerns here, we would work in conjunction with the ACCC, but they would have to take the lead role," he said.

He cautioned banks that even if some access regulation for the NFC was put in place, "it is probably not the case that entities would get access to the NFC chip and get that for free".

"I suspect the concerns of the banks are more along the lines of 'While it is a small fee [paid to Apple] now, it could become a much bigger fee in the future'," Dr Richards said.

Executives from the Australian Competition and Consumer Commission will appear before the committee on Tuesday afternoon. Apple told the committee in a submission that Apple Pay was pro-competitive. It has denied it restricts banks' mobile banking apps from making NFC payments.

The committee also took evidence on Macquarie's restrictions on access to the Eftpos debit network, after Macquarie Bank issued "single network" debit cards that do not allow customers or merchants to route transactions to the domestic scheme.

Eftpos CEO Stephen Benton said Australia "must maintain competition and technology sovereignty in its payments system, rather than depending entirely on big tech and Visa and Mastercard".

Mark Britt, the new CEO of Beem It, a payments app which Eftpos bought last year, said Macquarie Bank's move to a single network card created "a significant negative customer reaction at Beem It - far bigger than we would have expected from a relatively small card issuer".

The hearings on Monday showed the committee is examining the payments system as piece of critical infrastructure that will affect competition, data sovereignty and potentially national security. It comes as ASIC reviews ePayments and while Treasury and the RBA are conducting separate reviews of retail payment regulation.

Zip's Mr Gray criticised the regulatory complexity of payments in Australia, declaring: "We do not want to pursue regulation by whack-a-mole."

Mr Wallace pointed Dr Richards to "quite a bit of confusion, and certainly overlap, between what appears to be a myriad of regulators in this space". Labor Senator Deborah O'Neill said she was concerned the RBA did not have detailed data on Apple Pay and Google Pay, given the growth of digital wallets.

Senator O'Neill also homed in on potential sovereign risk relating to the storage of payments data offshore, and questioned whether the hypothetical sale by Apple or Google of parts of their payments businesses could result in Australian payments data transitioning to countries that do not share Australia's democratic principles, with potential risks for national security.

AusPayNet, a self-regulation body that includes the banks, called for Apple and Google to be regulated by ASIC under the ePayments Code via a new specific payments licence. "If you process payments, you should be licensed," its CEO Andy White said.

Document AFNROL0020210726eh7q000p1

FINANCIAL REVIEW

Companies and Markets

Apple's payment app faces scrutiny

James Evers

992 words

23 July 2021

The Australian Financial Review

AFNR

First

25

English

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Big banks and the regulators want a parliamentary committee to investigate the restrictions **Apple** has placed on third parties accessing the payment functions of its iPhone, to ensure the fast-growing market for **digital wallets** is competitive.

Banks say smartphones have become "critical gateways" for making payments, but given **Apple** and Google have payment applications that compete with them, "competition questions may arise because of their ability to self-preference" **Apple** Pay and Google Pay over banks' own apps.

The parliamentary joint committee on corporations and financial services will conduct hearings on Monday and Tuesday next week to examine the surging use of mobile phones to make payments. Behind the seamless process of waving a phone at a payments terminal instead of a physical card, banks and tech giants are locked in a fight over control of digital wallets.

The use of digital wallets jumped 90 per cent during the COVID-19 pandemic and is predicted to be the most popular contactless way to pay in-store by the end of the year, according to CBA.

Relationships with customers at the point of sale have been closely guarded by banks because it is the payments process that provides customers with their most regular contact with banks but technology companies are muscling in on that relationship.

Many submissions to the committee highlight concerns about Apple insisting all "tap and go" transactions - which require access to the iPhone's "near field communication" (NFC) chip - be routed through its wallet. This means only Apple Pay can process a payment on an iPhone. Apple charges the bank that issues the card a fee per transaction, believed to be a few cents per \$100.

Apple's restrictions around payments are being investigated by the European Union and authorities in Germany, Switzerland and the Netherlands.

In Australia, the issue first came into focus in 2016 when three big banks challenged Apple in the Australian Competition and Consumer Commission. They were denied an opportunity to collectively bargain against the tech giant.

But the ACCC appears to be adopting a tougher line against Apple following its digital platform inquiry, which raised concerns with Apple's and Google's market power over apps.

The regulator, which will appear before the parliamentary joint committee next week, told the committee in a submission that with "rapid technological change and evolving markets, ensuring effective competition becomes all the more important".

If banks cannot utilise the features of the iPhone to create their own tap-and-go payment apps, "this has potential to limit the competitive constraint of existing and potential rival apps due to these product limitations," the ACCC said.

The Australian Banking Association told the committee there was "merit in enforcing greater transparency and oversight of the terms and conditions of access to mobile devices".

The Reserve Bank said that while technology platforms "have the potential to improve the efficiency and security of the payments system by providing innovative new services, they can also introduce new direct and indirect costs" and "as digital wallets become more widely used, wallet providers could obtain substantial market power and this could have implications for competition and efficiency in the payments system".

However, the RBA said it "does not see a case for regulatory action at present".

Google and Apple have adopted different approaches to payments access. Google has opened access for third-party app developers to the NFC chip on Android phones, and Apple's NFC architecture is closed. It says this is necessary for security reasons.

Apple, which is not listed to appear before the committee next week, said in a submission it did not "restrict" or "limit" banks from making NFC payments with their mobile banking applications and allowed them to initiate NFC payments directly from their iOS apps.

However, it warned that to "give control of NFC capabilities to individual banks would compromise the customer experience on Apple devices, reduce security and privacy, undermine choice and harm competition".

Commonwealth Bank CEO Matt Comyn will appear before the committee on Tuesday. The RBA's head of payments, Tony Richards, will appear on Monday. CBA said in its submission the mobile phone must "operate on a basis of competitive neutrality".

"Regulation should prevent the development of monopolies or market dominance by a small number of players and ensure interoperability across mobile wallet ecosystems so that consumers can benefit from greater choice and innovation," CBA said.

Banks have been concerned for several years that tech companies will win customer relationships by providing slicker digital experiences; last week, it was reported that Apple is working with Goldman Sachs in the US to develop more credit products.

Domestic debit scheme eftpos is also concerned about how cards are provisioned into digital wallets. When debit cards are loaded into smartphones, they default to the networks operated by the international card schemes Visa and Mastercard, rather than eftpos. On Google Pay, eftpos is not available on multi-network debit cards. Eftpos told the committee it would support regulation "to ensure a level playing field".

Apple told the committee it did not provide financial or payment services and its "only role has been to develop the technical architecture that can be used by licensed financial institutions to offer their consumers a safer and more secure way to pay with their credit, debit or prepaid cards".

It warned that "policies or regulations that seek to prescribe or dictate a technical approach are unnecessary and create severe unintended consequences, including compromising the security of the payments systems and stifling innovation".

Meanwhile, the ACCC said this week it had delayed a decision on the merger of the three domestic payment schemes - which the banks argue is necessary to create scale to compete against the technology and card giants - by six weeks to mid-September.

Regulation should prevent the development of monopolies or market dominance by a few players. Commonwealth Bank in its submission

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Apple Arcade: Why is it making waves now?

1,054 words

17 July 2021

The Telegraph

ABPTEL

English

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Since **Apple** Arcade launched in 2019, the video game subscription service recently got a much-needed boost, sort of like a jetpack, to zoom on an upward incline on a graph. The service is for **Apple** device users to play a wide range of **gaming** titles (180-plus games at the moment) for a fixed monthly fee of Rs 99, minus advertisements or in-app purchases. The focus is on games and games alone.

After the initial launch, there was sort of a lull period when new games got added now and then but the demand for new titles was far higher. In the last few weeks, some binge-worthy games have been added. And the titles can be played across **Apple** devices — iPad, iPhone or Mac, without hiccups.

So what has changed? What has made Apple Arcade worthy of your attention more than ever before? The big move was announced in April but the real benefits can be felt now. When you sign up for, say, Netflix, the move could be triggered by one original title but there needs to be something beyond that to keep you hooked and these may well be shows that aren't exclusives. There will always be the exclusive new Apple Arcade Originals and then two more categories — Timeless Classics and App Store Greats. In the latter category, you can find some well-known iOS games that have been released over the past decade but you can now play them without ads or in-app purchases.

One has to remember that be it the iPhone or the iPad or the Mac, these all run on chips that are the best in the industry, so the experience remains uncompromised. I tried out quite a few titles in the last few weeks and here's how it went.

Fantasia is that one game I am willing to pay way more than the monthly subscription fee. Produced by none other than the legendary Hironobu Sakaguchi, the creator of the Final Fantasy series, and the music is by his long-time friend, Nobuo Uematsu. More than five hours into the game, the graphics are unlike anything we usually get to see, which probably stems from the fact that the developer physically built the sets of the game and then layered 3D models on top of it.

There is plenty of animation involved but that too is spot on. While the second part is coming sometime this year, the first half slips the users into the role of Leo, who awakens in a strange world that's being encroached upon by a mechanical plague. As you progress, recovering Leo's lost memories along the way, mysteries get unearthed. During the course of the journey, there will be enough monsters to slay. It's a graphically complex game that I have managed to play seamlessly between the iPad and the iPhone.

On the other extreme is Clap Hanz Golf, a goofy take on the sport. I am a fan of WGT Golf, which has been my companion for years, so switching loyalty to Clap Hanz Golf began with some hesitancy. At the moment, it is my go-to game, something I play at least 30-45 minutes a day.

Making the title oddly satisfying is how it makes golfing fun for non-golfers. The presentation is whacky as you go on a world tour (that's the mode I am currently glued to), winning friends and expanding my team. The iOS touch controls make it worth playing the game. Choose a club, point where you want the ball to go, draw your finger back and then swipe up to let it rip. A simple gameplay can become boring, which doesn't happen as Clap Hanz, the Japanese developer behind the title, has enough of tricks that has been collected working on games called Everybody's Golf. The touch response of the iPhone screen makes it an addictive title.

The soft corner for race-shoot-crash titles has found a home in Agent Intercept, which does a few things very well — lets you race a car, blow up cars and planes and, of course, makes you fight a worthy opponent. While moving through the chapters, there are several tasks that need to be completed. The story begins with the user being asked to stop a few villains and ultimately moves to stopping nuke-carrying rockets.

The campaign has been very well designed, so that you can complete each chapter within a couple of hours. Having a short gameplay helps when the plot doesn't have a lot of depth, which happens often while playing bang-bang titles in which mindlessness grows by the day.

I used (at times) a game controller to navigate because there are some sharp twists and turns the car needs to take, plus a lot of shooting. Top-notch haptic feedback of the phone and graphics bring Agent Intercept alive.

The game I have just started playing is Ultimate Rivals: The Court, a graphic-intensive title; it's like playing extreme basketball. Players will create powerhouse squads consisting of their favourite pros to compete with their friends and family in three-on-three games with tons of above-the-rim acrobatics.

It is the first basketball experience to gives fans the ability to play as their favourite athletes, with pros such as NBA's Giannis Antetokounmpo, Kawhi Leonard, James Harden, and legendary athletes like Larry Bird, Julius Erving and Shaquille O'Neal. In addition, WWE Superstars and Legends will join the roster in future updates, including Dwayne Johnson (The Rock).

So far, I have been mesmerised by the graphics, how smoothly it flows and the adrenaline-pumping gameplay.

With more games arriving every other week and month, Apple Arcade is finally enjoying a turnaround. Like I said earlier, all the games can be played for a simple monthly fee, minus ads or in-app purchases. And there is always the Apple chain of products with uncompromising hardware to make every game appear smooth.

: Join Red, Chuck, Bomb, Silver and the rest of the gang for classic slingshot action

: Bullet-powered jetpacks in an endless running quest.

: The "most dangerous, least sensible racing series" ever devised.

: Infinite unique puzzles, generated by an intelligent algorithm.

Document ABPTEL0020210716eh7h0005t

Extras, IndyBest, Tech, Computer Accessories
7 best HDMI cables for connecting up your TV or monitor

David RS Taylor
1,330 words
14 July 2021
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Independent Online
INDOP
English

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Whether watching box sets or **gaming**, find the best lead for you with our top picks

Who would've thought that picking a cable for your **TV** to work would involve time rooting around the internet for the best one? High Definition Multimedia Interface (or HDMI) cables are pretty much the only way of connecting TVs to products like set-top boxes or **games consoles** – even with **computers**, companies like **Apple** have adaptors, so you can hook up your HDMI cables.

There are so many HDMI cables sold all across the web and in-store, however, that it can be slightly intimidating to find the one that's right for you. What should put your mind at ease is that as long as you're buying from a brand you know, or one that has plenty of positive reviews, you won't really be able to go wrong, even with budget options.

But we do have a few words of advice. Make sure you focus on build, not highfalutin claims of "SuperHighHugeSpeed" or whatever the latest word is that an advertising exec has conceived of: get a well-built cable with solid connectors at each end.

For the highest reliability, keep the HDMI cable length as short as you can get away with – the longer the cable, the more opportunity for something to go wrong along the way to your TV. For longer cables, build is even more important, with much more scope for failure, and even lower speeds with extra-long cables.

Braided cables are an option, especially when it comes to longer examples, as this adds to general strength, but for anything of a normal length, braiding isn't a prerequisite, as you're probably not moving the cables around too much.

Read more:

- * [Best paid and free VPNs for iPhones, Android and laptops](#)
- * [10 best PlayStation 4 games to play right now](#)
- * [8 best PS4 controllers for enhancing your gaming](#)
- * [10 best 4K TVs for a needle-sharp viewing](#)

Be aware of speeds when buying your cable – you need 18Gbps at a minimum, which is enough for 4K pictures and most regular TVs right now, with HDMI 2.0 or above. To futureproof your watching experience (or if you're going all out on a home cinema), ultra-fast cables that work with technology known as HDMI 2.1 offer the monumentally quicker 48Gbps, making them ready for 8K and beyond.

Besides these points, choice really comes down to where the cable is going to go and which colour you like. As long as you're not tempted by an individual seller with 17 numbers at the end of their eBay name, you should be good to go.

You can trust our independent reviews. We may earn commission from some of the retailers, but we never allow this to influence selections, which are formed from real-world testing and expert advice. This revenue helps to fund journalism across The Independent.

Amazon Basics nylon-braided HDMI cable

Don't be put off by the name: the Amazon Basics range produces quality products for a fraction of the price of some other companies. We use them for all manner of cables with consistent success.

These HDMI cables offer more than enough spec wise, with gold-plated contacts and high-quality copper conductors: basically, it does everything you need for a clear connection, in cables from 0.9m to 7.6m, and the nylon braided cable lends a bit of flexibility when trying to cram it behind the TV set. It supports data transfer up to 18Gbps, so for this price (even better for a five-pack bundle), it's an uncomplicated choice.

[Buy now](#) £6.59, Amazon.co.uk

Ibra high speed 2.1 HDMI 8K cable

If you're looking to futureproof your home, Ibra's 8K cable is great value. This HDMI 2.1-compatible cable offers the sought-after 48Gbps bandwidth supporting 8K video, and has a nylon braided design. Its current price is not to be sniffed at, especially if you're looking at upgrading for a few of your devices.

[Buy now](#) £15.45, Amazon.co.uk

True HQ ultra high speed HDMI cable

UK brand True HQ has a great range of premium cables that will last you well into the 8K era. The 2m ultra-high-speed HDMI 2.1 cable has been certified to produce 48Gbps of bandwidth – perfect for 8K – and is backwards-compatible with all previous HDMI versions. It also looks the part, which, when decisions are as tight as this, makes the difference. There are cheaper cables on the True HQ site which will work just as well, but for those who like the idea of certification from Hdmi.org, this is the cable to go for.

[Buy now](#) £17.99, Truehq.co.uk

LinkUp HDMI 4K 360° swivel cord

It's not always plain sailing connecting cables round the back of the TV, especially if it's wall-mounted: tight spaces can mean the cables are permanently bent, leading to wear and a much shorter lifespan. There are a few brands, therefore, that provide a solution in the form of flexible cables. LinkUp's version can be connected straight, at a 90° angle, or even swivelled round. Extra thick cabling ensures that a swivel doesn't mean a snap.

[Buy now](#) £16.96, Amazon.co.uk

Monoprice ultra slim certified premium high speed HDMI cable

For a cheap, no-nonsense HDMI cable, Monoprice has the answer. The cheapest in our round-up, it's nonetheless certified by Hdmi.org, so it's guaranteed to do the requisite work for you at a slice of the price. While it isn't braided, the certification ensures that the cable won't break at the first sign of stress, and you'll probably get a few of these anyway. Definitely a great choice for travelling with.

[Buy now](#) £3.19, Monoprice.uk

BlueRigger in-wall high speed HDMI cable

If you're in need of a longer cable, perhaps for an in-wall setup between devices, then ensure you buy one sturdy and durable enough for the job. BlueRigger offers a dedicated in-wall series of cables, from 1m to 10.5m, that feature a fire-resistant PVC jacket and components designed to protect against corrosion – something pretty important if you're committing to putting it behind plaster. The BlueRigger range runs up to 18Gbps and is backed by a limited lifetime warranty, for extra peace of mind.

[Buy now](#) £6.99, Amazon.co.uk

Caavo spotlight HDMI cable

If you're like us, and you have a fair few cables connected to various ports, you'll know that organisation is a nightmare. Caavo has come up with a clever way of helping out by designing a special cable with buttons on the heads: press one, and lights will flash at each end, saving you time following it from one end to the other. The cables are expensive, so certainly a luxury for those who have little patience, but it's a fun solution to a very first-world problem.

[Buy now](#) £18.00, Caavo.com

The verdict: HDMI cables

HDMI cables are a safe bet from most established brands, so you can get incredibly cheap examples that do just as well as fancier-sounding offerings. In terms of overall specs and price, our favourite is the [Amazon](#)

[Basics nylon-braided cable](#). For a futureproof cable, the [IBRA high speed 2.1 HDMI 8K cable](#) is great value and has the specs and sturdiness to last you well into the 8K era and beyond.

Looking for unparalleled image display? These are the

[best 4G TVs](#)

for a needle-sharp viewing experience

To print high quality photos at home try one of the printers from our choice of the

[best photo printers](#)

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Metro & State
In the business of fun

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Childhood friends John Boog-Scott and Tony Goodman have made waves in the **gaming** industry by embracing the message of their latest company's name, PeopleFun. Now in its 10th year, the Richardson-based mobile game developer is best known for its hit Wordscapes, a free crossword puzzle-like **Apple** and Android app that boasts over 120 million downloads. CEO Tony Goodman and chief operating officer John Boog-Scott met while attending Lake Highlands Junior High School in Dallas, and they've been friends and business partners ever since. In 2011, they founded PeopleFun — the third **gaming** company they launched together. In high school they worked together, both in the computer club and mowing lawns. They went on to the University of Texas at Austin, though Goodman left before graduating while Boog-Scott stayed and earned a degree in business.

The pair started their careers in information technology consulting and program testing before deciding to merge their professions with their passion for gaming. "My heart was always in gaming because, you know, it seems less like a real job, more like a dream," said Goodman, who's 56. In 1995, Boog-Scott, 55, and Goodman founded Ensemble Studios, the company that brought the Age of Empires franchise to the market. The series — in which players use strategy to build and expand an empire focused around real historical time periods and events — sold more than 25 million copies. They sold the studio in 2001 to Microsoft, which eventually shuttered the design house in 2009. It was reported at the time to be worth \$500 million. Gary Brubaker, director of Guildhall, Southern Methodist University's graduate program for video game developers, said Age of Empires was successful largely because of its dedicated core audience. He compared it to the film industry, where many genres may be extremely popular but are widely unknown to those outside the fanbase. "People who know about them and love them are dedicated and vocal," Brubaker said. "But if that's not your thing, you may have never seen it." When Microsoft pulled the plug, Goodman went on to found Plano-based Robot Entertainment. Robot Entertainment created the award-winning fantasy fighting game series Orcs Must Die! Chinese gaming powerhouse Tencent Holdings bought a minority stake in Robot Entertainment in 2015. In 2011, when Boog-Scott and Goodman set up PeopleFun with longtime colleague Angelo Laudon, it reflected their changing relationship with gaming. Between careers and starting families, both agreed that they had less and less time to dedicate to console or PC gaming, and mobile games were more accommodating. "Mobile really fits into your lifestyle a lot better," Goodman said. "You can play games in five-minute chunks, as opposed to staying up all hours of the morning." The company, which employs 84 people, has created several other mobile word games besides Wordscapes, including Word Chums and Word Stacks. Goodman and Boog-Scott say they like creating these games because they're accessible and fun. "It's something I've always found fun. It's a game; it stimulates your mind some as well," Boog-Scott said. "We've tried to make it so the experience is very joyful, a bit of a Zen-like experience is our goal." The advent of mobile games that came with smartphones has also widely broadened the demographics of people considered gamers. Many casual mobile game players don't think they're gamers and may even be averse to the label. "Most people think of some male in their early 20s, in their parents' basement with an Xbox or PlayStation," Brubaker said. But that's not the case. When you consider a gamer as anyone who plays a video game for 10 hours a week or more, Brubaker said, "all of a sudden you include a large section of people who would deny that they're even gamers, or even like video games." A 2016 study by the Electronic Software Association said the average gamer today is around 30 years old and equally likely to be male or female. The rise of casual games like Wordscapes, the study said, has also increased older groups' interest in video games. PeopleFun's popularity among older adults is apparent when Goodman talks to people outside the industry, he said. "When we were younger, making games like Age of Empires, we would say to somebody we make video games and they say, 'Oh, my son would love to meet you!' And now we say we make Wordscapes and they say, 'Oh, my dad would love to meet you!'" Goodman said. Wordscapes has topped both the Google Play and Apple App stores and, according to PeopleFun, the game has 4.5 million daily and 14.8 million monthly active users. Across all of its games, PeopleFun said it attracts 29 million monthly users in almost 240 countries. The casual, mobile gaming field comes with significant differences

from traditional console and PC games. On consoles, games typically require a one-time purchase and, in some instances, optional perks can be bought as well. Mobile games, including PeopleFun's, are free to download but offer perks or extras for purchase as well as advertisements. PeopleFun is also part of a deep-rooted and growing game development market in Dallas. North Texas has a robust history in the gaming industry, dating back to early games such as Doom, a pioneering first-person shooter game released in 1993, and Duke Nukem, a series that began in 1991. Brubaker said he considers Boog-Scott and Goodman "pillars of the Dallas game development community." In Texas, the video game industry is credited with creating \$4.15 billion in annual economic output, according to a 2020 report by the Electronic Software Association. The industry accounts for 25,000 jobs in the state, directly and through supplier or other supported jobs. Texas trails only California and Washington in video gaming's economic impact, the report said. PeopleFun's staff is made up of a variety of specialists, from software engineers, artists and data scientists to analysts, product managers and producers. Boog-Scott and Goodman said their ideal employees are people with entrepreneurial personalities because they bring new ideas and enthusiasm to the table. "Those people are very motivated and, yeah, they do sometimes leave and start their own thing, and you can support them in that, but we find that those are the highest performers," Goodman said. As the company celebrates its 10-year anniversary as well as its flagship game's 4-year mark, Boog-Scott said it's an important way to acknowledge PeopleFun's success. The company netted roughly \$350 million in revenue in 2020. "We're always pretty forward-looking at what's next, but try to make sure we do take some time out for recognizing some of those things we have accomplished," Boog-Scott said. Twitter: @G_Mira_Childhood friends continue to combine business, fun

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THE WALL STREET JOURNAL.

Technology

Tech

The Apple-Microsoft Tech War Reignites for a New Era; Battle over App Store rules has renewed tensions between the rivals and could overshadow the rise of augmented and virtual reality applications

By Tim Higgins and Aaron Tilley

1,278 words

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English

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A new clash of tech titans is taking shape as **Apple** Inc. and Microsoft Corp. reignite a feud that dates back to the formative days of the personal computer era.

The companies' co-founders, **Apple's** Steve Jobs and Bill Gates at Microsoft, battled early in their history before largely burying the hatchet. In recent months, both companies have taken up arms again in a skirmish that is roiling other tech companies and their customers.

Apple, in its legal fight with Epic Games Inc., accused Microsoft of being the puppet master behind the game maker's case. Epic Games has accused the iPhone maker of anticompetitive practices, while Microsoft has blamed Apple for restricting its ability to reach users with its own videogame service.

[On Thursday](#), Microsoft Chief Executive Officer Satya Nadella launched Windows 11 with what was widely seen as a swipe at Apple and the controls it wields over its iPhone App Store, but without mentioning the rival directly. Both companies are positioning themselves for an impending battle over the augmented and virtual reality market that is seen as the next major frontier in computing.

"The world needs a more open platform—one that allows apps to become platforms in their own right," Mr. Nadella said Thursday during a virtual event.

Apple has defended its tight controls over its App Store as offering users greater privacy protection and cybersecurity. Others, including Facebook Inc. and Epic Games, claim the company is unfairly wielding its power to control access to more than one billion iPhone users.

Mr. Nadella is casting Microsoft as the defender of developers and a good partner. The company teamed up with Amazon.com Inc., for instance, to bring the e-commerce giant's version of Google's Android apps to Windows 11 users, while Apple has been doubling down on [its walled garden](#) of devices and apps.

It is somewhat of a role reversal. In the past, Apple was seen as the scrappy underdog beloved by content creators fighting a heavy-handed monopolist.

Apple and Microsoft are the oldest of the modern tech titans, founded back in the mid-1970s. As young men, Messrs. Jobs and Gates feuded for years. Mr. Jobs at one point accused Microsoft of stealing Apple's ideas and having a poorly designed product. They publicly called a truce around 1997 soon after Mr. Jobs returned to run the company he helped create. That year Mr. Gates invested \$150 million in Apple, giving a badly needed cash infusion and lifeline for Mr. Jobs's second act.

The companies still took occasional swipes at each other. Apple ran TV spots making fun of PC users, prompting Microsoft to launch a [countercampaign](#).

Mr. Jobs at one point reflected that the rivalry had become unhealthy. "If the game was a zero-sum game, where for Apple to win Microsoft had to lose then Apple was going to lose," he said [in a joint interview](#) with Mr. Gates at a Wall Street Journal conference in 2009, a time the software giant was much larger. "We tried to patch things up," Mr. Jobs said.

Until recently, a new generation of leadership at both companies seemed inclined to keep the peace publicly. Tim Cook took over from Mr. Jobs at Apple in 2011, and Mr. Nadella became Microsoft's CEO in 2014. One of Mr. Nadella's first big public actions was to bring the company's Office productivity applications to Apple's iPad tablet.

"Microsoft and Apple have been bitter enemies and frenemies, it's gone back and forth," Patrick Moorhead, president of the technology firm Moor Insights & Strategy, said. "They're back at enemies."

Now the two contenders have become America's principal business superpowers, the only two U.S. companies to be valued at around \$2 trillion or more. Both have more than 140,000 employees on their payroll, and their combined annual sales top \$400 billion.

At the heart of the current dispute is the power Apple wields as the gatekeeper over who and what is distributed on the iPhone. Microsoft has been vocal in criticizing limits that it sees as hampering the growth of its own booming videogaming business.

Microsoft this year backed videogame creator Epic Games when it sued Apple for [what it alleged](#) are anticompetitive practices that the Cupertino, Calif.-based company denies. Apple takes as much as a 30% cut for in-app sales made when the software is downloaded through the App Store.

Epic Games called Lori Wright, Microsoft's vice president of business development for gaming, media and entertainment, as a witness to talk about her failed attempt to bring a bundled videogame streaming service called Game Pass Ultimate to Apple's App Store. Apple, she said, treated Microsoft's offering in a way that was different from how it handled streaming services provided by other companies such as Netflix Inc.

In a court filing, Apple tried to discredit her testimony and raise questions about the motives of other Epic witnesses, suggesting Microsoft was pulling the strings behind Epic's legal action.

"A reasonable observer might wonder whether Epic is serving as a stalking horse for Microsoft," Apple said in a court filing. "Yet Microsoft shielded itself from meaningful discovery in this litigation by not appearing as a party or sending a corporate representative to testify."

A judge is expected to rule on the overall case in the coming weeks.

While Microsoft said it is lowering the cut it takes on content sold on its new app store, the company will continue to take 30% on games sold on its Xbox console.

Both Apple and Microsoft have other companies they spar with. Apple and Facebook have been at loggerheads [over the tracking of user data](#), and Microsoft's list [of rivals](#) spans Amazon's cloud-computing business and companies such as Zoom Video Communications Inc. and Slack Technologies Inc.

But none of those disputes come with the same history.

SHARE YOUR THOUGHTS

Will the Windows 11 launch deepen the rifts between Apple and Microsoft? Why or why not? Join the conversation below.

Things are also heating up as both Apple and Microsoft are preparing to win in the still-nascent augmented reality market, in which digital information is overlaid in the real world. Microsoft is already selling its HoloLens headset, and Apple is expected to unveil its device as soon as next year.

"We're taking a perspective that it's going to be open," Alex Kipman, a Microsoft Technical Fellow, said of the emerging market. "None of this 'you have to go through our app store and pay tax,'" he said last month at The Wall Street Journal's The Future of Everything Festival.

Industry officials expect Apple to carry its App Store rules into the virtual world. Apple hasn't commented on its plans.

"It's definitely heating up," said Gene Munster, a longtime observer of both companies and managing partner at Loup Ventures, a venture-capital firm specializing in tech research. "Augmented reality is really important, and that's the next window for Microsoft to get back into growth mode...and Apple obviously wants to kind of defend their mobile turf."

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Write to Tim Higgins at Tim.Higgins@WSJ.com and Aaron Tilley at aaron.tilley@wsj.com

[The Apple-Microsoft Tech War Reignites for a New Era](#)

Document WSJO000020210627eh6r0005I

With Windows 11's new store, Microsoft wants to make **Apple** look bad

Tim Biggs

689 words

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SMHHOL

English

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Microsoft's decision to open its Windows 11 marketplace to all kinds of apps - and charge absolutely no commission in some circumstances - is a targeted shot at the **Apple** and Google stores under scrutiny from regulators on anti-competitive grounds.

The new Windows operating system was unveiled overnight and promises a raft of improvements, including a much more modern look, less annoying updates, compatibility with Android apps via a partnership with Amazon, more efficient performance and close integration with Microsoft's communication and **gaming** services. But the revamped Microsoft Store is potentially the most interesting part.

The Microsoft Store launched in 2012 for Windows 8 quickly became something of a laughing stock. Users were accustomed to downloading programs directly from developers themselves, and developers in turn were not used to paying Microsoft a fee. Things have improved since then, but it's still fair to say the store is not the primary place Windows users go to get new programs, which is in contrast to how things work on Android, iOS and to an extent MacOS.

But rather than trying to beat Apple and Google at their own game, Microsoft is now declaring that game to be unfair. Starting today it is accepting apps built on any framework to the Microsoft Store, and from the end of next month developers can also choose to use any payment apparatus. If they choose Microsoft's, they'll pay a 15 per cent fee, but if they choose otherwise they don't have to pay Microsoft anything.

The result will likely be a huge influx in apps to the store, which previously would have stuck to selling from their own web pages. Microsoft has already announced that previous hold-outs Adobe Creative Cloud, Disney+, and Zoom have agreed to participate. The one exception to the new paradigm is games, where it appears developers still need to go through Microsoft and pay 12 per cent.

These moves are important in the context of Apple and Google charging all developers a 30 per cent fee (down to 15 per cent for small businesses), and mandating that all developers use their payment mechanisms.

The two companies have been embroiled in antitrust suits and subject to regulatory scrutiny over their stores, including in Australia from Fortnite-maker Epic Games and the ACCC.

It's certainly no coincidence, with Microsoft CEO Satya Nadella stating at the Windows 11 event — and again on Twitter — that he thinks such ecosystems are restrictive and bad.

"Windows has always stood for sovereignty for creators, and agency for consumers," he said. "Today, the world needs a more open platform, one that allows apps to become platforms in their own right."

Windows has always stood for sovereignty for creators and agency for consumers, and with Windows 11 we have a renewed sense of Windows' role in the world. pic.twitter.com/xHldf38B8d

— Satya Nadella (@satyanadella)

[June 24, 2021](#)

Is Microsoft saying this because its own attempts to hold on to an ecosystem with an iron fist and charge creators 30 per cent of all takings have largely failed, while Apple's have largely succeed? Yep. And was it emphasised extra hard specifically because it's a current weak spot for Apple and Google? Probably.

But that doesn't mean it's not a positive step. Arguments that a system like iOS is inherently unfair because the company that runs it charges a 30 per cent commission to other developers while also competing in the ecosystem itself and keeping all its own takings have been persuasive.

But Apple has been adamant in that case that it wouldn't work any other way.

With its new store, Microsoft may prove that giving developers and users more choices can pay off. And while Microsoft's business model differs quite a bit from Apple's and Google's, the existence of such a store could only make their practices appear even more restrictive.

Get news and reviews on technology, gadgets and gaming in our Technology newsletter every Friday. Sign up [here](#).

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Extras,IndyBest,Prime Day

Prime Day 2021 Apple deals: Best early offers on iPhone 12, iPad, latest Apple Watch and more

Steve Hogarty

2,534 words

18 June 2021

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Independent Online

INDOP

English

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With rarely seen savings on the brand's products, it's the perfect time to invest in new tech

Prime Day is so close now we can almost smell those discounted blenders on the breeze. Amazon's yearly sales bonanza starts on 21 June and promises millions of deals across the online retailer's entire catalogue, from [kitchen appliances](#) and [booze](#) to [fashion](#) and [gaming](#).

[Apple](#) is always a Prime Day highlight. [MacBooks](#), [Apple Watches](#) and [iPads](#) are among the hottest tickets every year, and recent sales events have seen even the newest devices discounted to all-time-low prices.

The exact deals are kept under wraps until Prime Day begins, so until then we can't know exactly which Apple products will be discounted in 2021.

But to help get you up to speed, we've compiled a list of some of the best early Apple deals we've found, as well as what we expect to see on offer during this year's Prime Day.

We'll update this page with the best Apple deals as soon as they're announced. New offers are likely to appear as we approach the big day too, so check back often to stay on top of the best discounts.

Read more:

* [Amazon Prime Day 2021 laptop deals](#)

* [Amazon Prime Day UK live: Dates, deals and what to expect](#)

* [Amazon Prime Day 2021 clothing deals](#)

Our IndyBest team hand-picks every deal we feature. We may earn some commission from the links in this article, but our selections have been made independently and without bias. This revenue helps to fund journalism across The Independent.

What is Prime Day?

Prime Day is an annual two-day sales event held by Amazon and available exclusively to Amazon Prime subscribers.

The event first took place in 2015 to celebrate the online store's 20th anniversary, and since then it has generated more sales than the site's Black Friday and Cyber Monday events combined.

When will Prime Day Apple deals begin?

The official dates for [Amazon Prime Day](#) are 21 June and 22 June, according to a press release from the retailer. The two-day shopping extravaganza will see discounts on everything from tech to fashion and home appliances.

In true Amazon fashion, you'll notice early discounts on MacBooks and iPhones ahead of the big shopping event. Keep this page bookmarked to make sure you're always in the know, as we'll be updating it.

Do you need Amazon Prime to buy Prime Day Apple deals?

Yes. Prime Day deals are exclusively available to Amazon Prime customers, but you can start a free 30-day trial any time before the sale starts to access the deals.

A subscription to Amazon Prime costs £7.99 a month or £79 a year. As well as unlocking discounts on Prime Day you'll get access to premium features such as same-day delivery, movies and TV streaming on Prime Video, and Amazon Music.

How to get the best Amazon Prime Day Apple deals

We'll update this page with Apple deals as soon as they arrive, so keep checking back in for the latest discounts. You can also add Apple products you're interested in buying to your Amazon wish list ahead of Prime Day. Anything that gets discounted will be right there waiting for you in your basket, ready to snap up.

For staying on top of the Lightning Deals, we recommend using the Amazon shopping app. Lightning Deals last for a few hours or while stocks last, so switch your notifications on to be alerted as soon as products you're interested in go on sale.

What to expect from Prime Day Apple deals in 2021

Prime Day deals on Apple products can be difficult to predict. You can expect to see offers on older Apple stock — such as previous-generation iPads and MacBooks — but we've also seen some surprising deals on the newest Apple devices.

At Prime Day 2020, wearables were the focus. Only weeks after its launch, we saw the latest Apple Watch series 6 discounted by £50. But the biggest savings were to be found a few generations back – there were hundreds of pounds off the Apple Watch series 3.

If you're happy to stay just behind the curve, we expect you can pick up some serious bargains on Apple products this year.

Last year's best Prime Day Apple deals in the UK

The 38mm Apple Watch series 3 (£197, [Amazon.co.uk](https://www.amazon.co.uk)) was a popular deal during last year's Prime Day sale. The smartwatch can be picked up for under £200 today, though we'd recommend holding on until Prime Day to see if later models get the same treatment in 2021.

A modest £50 was knocked off the price of the newest models of MacBook air (£899.97, [Amazon.co.uk](https://www.amazon.co.uk)) and MacBook pro laptops (£1,152, [Amazon.co.uk](https://www.amazon.co.uk)). Apple-owned audio firm Beats also dropped the price of its solo 3 over-ear headphones (£119, [Amazon.co.uk](https://www.amazon.co.uk)) to £129.

Ask Amazon's Alexa for early Prime Day deals

From 12pm on 18 June, Prime members will be able to ask Alexa what Prime Day deals will be on offer and start shopping for bargains early.

Alexa, the retailer's virtual assistant, can be found on the Amazon Echo smart speaker along with the Echo dot (£34.99, [Amazon.co.uk](https://www.amazon.co.uk)) and Echo studio (£189.99, [Amazon.co.uk](https://www.amazon.co.uk)), as well as many speakers, smart TVs, fitness trackers and more sold by Amazon.

Early Amazon Prime Day Apple deals in the UK

Apple products are already enjoying some great discounts ahead of Prime Day, and many can be found cheaper than they were during last year's sale. Here are some of the best deals we've found.

Best Apple Watch deals

Apple Watch SE (GPS + Cellular, 44mm): Was £349, now £297.37, [Amazon.co.uk](https://www.amazon.co.uk)

Track and meet your fitness goals with the Apple Watch SE, currently discounted by nearly £50. The GPS and cellular model allows you to text, call, get directions and stream music all without your phone. In our review of [the Apple Watch SE](#), our tester praised its “dazzling design, intuitive notifications, accurate heart-rate monitoring, slick activity tracking and sleep monitoring, scores of watch faces, warnings when you're in an over-noisy environment, fall detection and much more”.

[Buy now](#)

Best iPhone deals

Apple iPhone 12 mini, 128GB: Was £749, now £649, [Amazon.co.uk](https://www.amazon.co.uk)

The iPhone 12 mini is one of Apple's latest products and it's surprisingly on offer. Operating on iOS 14, this device has an A14 Bionic chip which, according to Apple, is the fastest chip ever in a smartphone. It also has

5G, a tough ceramic shield for protection, a screen size of 5.4 inches and last but not least an advanced dual-camera system that includes 12 megapixels ultra-wide and wide cameras. This £100-off deal can get you the purple, red, white, blue or green model.

[Buy now](#)

Apple iPhone 12 (64GB), blue: Was £799, now £699, [Amazon.co.uk](#)

The latest iPhone comes equipped with water resistance, a dual camera system with 12 megapixels ultra wide and wide cameras and an A14 bionic chip, which is the fastest chip for a smartphone. Even better, when our reviewer put the model up against the Pro version in our [iPhone 12 Pro vs iPhone 12](#) guide, they found few differences. In fact, they said “the 12 was just as fast as the Pro”, adding that “the iPhone 12 even has the same 12,815mAh battery as the iPhone 12 Pro and the same magnet array, allowing you to wirelessly charge your iPhone.”

[Buy now](#)

Apple iPhone 12 pro max, 128GB, Pacific blue: Was £1,099, now £1,049, [Amazon.co.uk](#)

Apple's latest phone is a 5G powerhouse with an advanced A14 Bionic chip and the best camera performance ever in an iPhone. Sure, this might not sound like the biggest discount on an iPhone 12 pro max, but you wouldn't step over a £50 note on the street.

[Buy now](#)

Best iPad deals

Apple iPad pro, 11-inch, 2nd gen, 512GB: Was £1,069, now £875.13, [Amazon.co.uk](#)

The best Prime Day savings on Apple products are to be found by looking at previous generations. The 2020 model of the top-of-the-range iPad pro is still a fiercely powerful device, with an A12 bionic chip thrumming away behind its luscious, 11in, edge-to-edge retina display.

[Buy now](#)

Apple iPad air, 10.9in, 4th gen, 64GB: Was £579, now £553.38, [Amazon.co.uk](#)

The newest iPad air is one of the most powerful and versatile tablets Apple has ever created, rivalling even the flagship iPad pro in performance terms. It took the number one spot in our round-up of [the best tablets](#), where our reviewer praised the device's cutting-edge specs: “It also has the most advanced processor Apple has installed in a tablet, the A14 Bionic, which is also found in the [iPhone 12 pro](#).”

[Buy now](#)

Best AirPods deals

Apple AirPods with charging case (wired): Was £159, now £123.98, [Amazon.co.uk](#)

The basic Apple AirPods lack the noise-cancelling and flexible silicon tips of the more expensive AirPods pro, but for everyday use they're an exceptional pair of earbuds with top audio performance. Compatibility with iOS is frictionless, and Siri is only ever just a tap away. We like them so much we featured them in our round-up of [the best wireless earbuds](#).

[Buy now](#)

Apple AirPods pro: Was £249, now £189, [Amazon.co.uk](#)

Apple's premium in-ear wireless buds are comfortable to wear for extended periods, and come in a stylish compact charging case that provides more than 24 hours of power in a single charge. In our [Apple AirPods pro review](#), our tech expert was suitably enamoured, saying they “offer some of the best noise cancelling in any in-ear headphones”.

[Buy now](#)

Best MacBook deals

Apple MacBook pro with M1 chip, 13in, 8GB RAM, 256GB SSD: Was £1,299, now £1,135, [Amazon.co.uk](#)

Like the lighter MacBook air, the MacBook pro runs on the new M1 processor and can handle anything thrown its way. In our round-up of the [best high-performance laptops](#), our reviewer said that “unlike the air,

there is a fan in this model which means the fast performance can continue for even longer". Additionally, the entry-level pro includes a more powerful graphics chip for more intensive tasks.

[Buy now](#)

Apple MacBook air with M1 chip, 13in, 8GB RAM, 256GB SSD: Was £999, now £899, [Amazon.co.uk](#)

The M1-powered MacBook is a breathtakingly fast and ultra-stylish machine. In our round-up of [the best laptops](#), our reviewer said that "everything... is amazingly speedy". "The magic keyboard, as Apple calls it, is dreamy to use, responsive and comfortable with plenty of travel to make it feel good."

[Buy now](#)

Best Apple accessory deals

Apple magic keyboard: Was £349, now £199, [Amazon.co.uk](#)

Save £150 on this detachable keyboard that's compatible with the 4th generation 12.9in iPad pro and will make typing faster and easier than tapping on a screen. It also comes with a USB-C port for charging, backlit keys, and front and back protection. It attaches magnetically to the iPad and allows you to tilt the screen, so you can enjoy the benefits of a laptop with just a lightweight tablet.

[Buy now](#)

Apple Pencil (1st generation): Was £89, now £84, [Amazon.co.uk](#)

Featuring all the precision and responsiveness of a traditional writing tool, this Apple stylus allows you to draw, take notes or simply navigate around your iPad with ease. Perfect for the more creative Apple user, you can sketch, colour in and edit images seamlessly with the stylus. Although we haven't tested the device here at IndyBest, it's been a go-to for digital artists and graphic designers since its launch five years ago, and you can save 15 per cent on the accessory right now.

[Buy now](#)

Apple magic keyboard with numeric keypad, silver: Was £129, now £109, [Amazon.co.uk](#)

In our [best keyboard](#) guide, this Apple accessory took the crown as our best buy. That's because, according to our reviewer, "the keyboard is rechargeable and is powered by a supplied lightning cable, the same kind that is used with an iPhone." Other features that secured it the top spot in our guide was that "it recharges quickly and lasts for up to a month or so before it needs charging again". The keyboard is compatible with any Bluetooth-enabled Mac with OS X 10.11 or later, and all iOS devices with iOS 9.1 or later.

[Buy now](#)

Apple earpods with lightning connector: Was £29, now £16.94, [Amazon.co.uk](#)

If AirPods aren't your thing, keep it simple with these wired earphones that are currently nearly half price on Amazon. Enjoy deeper, richer bass tones as well as greater protection from sweat and water than offered by Apple's previous designs. Control volume, music and video playback as well as answer and end calls with the built-in remote.

[Buy now](#)

Voucher codes

For the latest discounts on tech, gadgets and more, try the links below:

* [AO discount codes](#)

* [Very discount codes](#)

Read more on Amazon Prime Day 2021

[Best Prime Day home appliance deals](#) – We're expecting huge savings across big-name brands such as Shark, Dyson, Nespresso and Philips

[Best Prime Day tech deals](#) – Whether it's a new phone, tablet, laptop or noise-cancelling headphones, you'll find the best deal here

[Best Prime Day Nintendo Switch deals](#) – Calling all gamers: prepare for big discounts on the popular console and bundles

[Best Prime Day fashion and clothing deals](#) – With prices slashed on dresses, jeans and more, it's time to get your re-entry outfit planned

[Best Prime Day kids' toys deals](#) – Find discounts on toys, gadgets and board games for kids of all ages

[Best Prime Day TV deals](#) – Update your at-home cinema experience without paying full price with our featured deals

[Best Prime Day gaming deals](#) – Looking for a new console, or after a new controller or game? Here are the best deals for gamers

[Best Prime Day fitness deals](#) – From yoga mats to dumbbells, snap up these savings and upgrade your home workout

[Best Prime Day laptop deals](#) – This year we expect big discounts on MacBooks, Microsoft Surface laptops and more

[Best Prime Day Amazon device deals](#) – Get ready for big savings on Amazon's cutting-edge smart home tech

[Best Prime Day Apple deals](#) – With rarely seen savings on the brand's products, it's the perfect time to invest in new tech

[Best Prime Day alcohol deals](#) – All the boozy savings you need to know about on spirits, wine and beer

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WWDC21: From iOS 15 to news ways of using FaceTime

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From the looks of it, **Apple** is trying to make the iPhone come across as the only device users need to carry while leaving home. The latest edition of WWDC — a **virtual event** — showcased the power of the upcoming iOS 15, iPadOS 15, macOS Monterey and watchOS 8. Privacy is, of course, at the heart of all the new improvements coming our way. For example, iOS 15, which is coming in fall, will add an App Privacy report that will tell users what data apps are collecting about them and show if an app gained access to things like the photo album, contacts list or microphone. On the other end of the spectrum is how **Apple** is trying to replace physical keys. CEO Tim Cook's team members have said the company is making it easier to use digital keys to unlock doors at homes, offices and hotels. Hyatt Hotels plans to use the technology at more than 1,000 properties beginning in the fall. Let's take a look at some of the big updates.

More than a year into the pandemic, and Apple is bringing some serious changes to FaceTime. So far the videoconferencing app has allowed video chat for immediate calls; it's time for scheduled ones, which come with sharable links, just like on Zoom. Apple hasn't stopped there. These links will also work via the web for people on Android and Windows devices, which shows the company's intent to make the iPhone more friendly towards the non-iPhone crowd.

Giving it an edge over, say, Zoom and Google Meet, calls made on FaceTime will sound much better and more "lifelike". With spatial audio feature, FaceTime calls are expected to sound as if you are in the same room as the other speakers. If the person on the right of your screen is talking, the audio will come from the right speaker, which improves the experience. And users will now have a grid view to see other people.

On iOS 14, the big change has been around how apps access and share our data. It gave users a clear choice whether they would like to be tracked for advertising purposes. The App Tracking Transparency framework didn't go down well with the likes of Facebook but it has come as a relief for users. This time, it's goodbye to IP tracking. So far, Intelligent Tracking Prevention has helped protect Safari users from unwanted tracking. The technology just got stronger because it can hide the user's IP address from trackers, meaning the user's IP address cannot be connected to activities across websites, stopping trackers from building profiles.

The other big change comes in the Mail app. There are mails that can track pixels, giving third parties insight into if you are checking their messages. Mail will also now hide user IP addresses by default.

Call it cutting-edge technology or a way to make loyal Apple users happy, the Universal Control feature is one of the coolest presentations in recent times. The update to MacOS, called Monterrey in its next version, involves more than one of your Apple devices. What we have seen so far is the possibility of opening a news article on the iPhone and then taking our reading to the MacBook or copy-pasting links from the iPad to the iMac.

With Universal Control, a single mouse and keyboard can navigate across multiple Apple devices at once. During the demo, three devices were placed in line – an iPad, MacBook and iMac. With the feature, you can drag and drop files across devices, which is extremely helpful if you work with video or pictures all the time. Further, it shows the power of Apple silicon.

The Health app and Apple Watch are among the best in the industry. Once you strap on the Watch or carry the iPhone around with the Health app running, it can collect a lot of useful data about your heartbeat, walking/running habits and so on. Apple Health can use your step-tracking data to understand what it calls "walking steadiness", a measurement that takes into account one's gait and balance and shows you how to keep an eye on your health. It can recommend improvements to your steadiness while walking or inform if you are at an increased risk of falling.

With watchOS 8 comes the new Mindfulness app, which takes the Breathe app forward. The new animations and other features will help you relax. Plus, the Fitness app is getting more workout options, like tai chi and pilates.

Without disturbing the feel of the current iPad operating system, the new updates in iPadOS 15 hinges on multitasking. First, there are plenty of good-looking widgets that are also bigger. The multitasking menu appears at the top of the screening. You can make apps go full-screen, create a split view with multiple apps or slide windows over to the side of the screen to access the home screen. Switching between apps appears to be very easy. The Notes app is also getting a big update, making it more collaborative and allowing you to tag coworkers in a shared document.

There is a new feature called Quick Notes, which allows users to make the note-taking window float over another app, making it easy to take notes without having to switch between apps. In case you are into coding, a new version of Swift Playgrounds allows users to learn, build, and submit iPad and iPhone apps to the App Store. Basically, you can submit apps without the need of a Mac.

Shared experiences are at the heart of many updates. Among the many updates for FaceTime in iOS 15, one involves co-watching TV shows or listening to music together while on a FaceTime call. Though we are not clear about how royalty payments work when it comes to using the technology but it's something unique.

Say you are listening to a song on Apple Music and want to share it with your friend. Just FaceTime and everyone on the call can listen to the music. While sharing, anyone can pause or jump to the next track. Also, the company has showcased how video from its Apple TV+ streaming service can be synced real-time between participants.

And it's not just for Apple's own streaming services, there is a sizeable set of partners for SharePlay, including Disney+, Twitch and MasterClass.

Two words for you — Conversation Boost. It's a feature for the AirPods Pro to help those who find it difficult to hear other people in crowded conditions. The device will be able to isolate the voice of the person before you, cutting down ambient noise to the level of your choice. Another offering: AirPods Pro and AirPods Max users will soon be able to locate their earbuds or headphones more accurately using the Find My network.

Using on-device intelligence, notifications are arranged by priority, with the most relevant notifications rising to the top, and based on a user's interactions with apps.

Weather includes more graphical displays of weather data, full-screen maps, and dynamic layouts that change based on conditions.

: The voice assistant adds Announce Notifications on AirPods, the ability for users to share what's on their screen just by asking.

It combines everything users love about iCloud with new premium features, including Hide My Email, expanded HomeKit Secure Video support, and an innovative new Internet privacy service, iCloud Private Relay, at no additional cost.

Existing iPhone users can temporarily back up data to iCloud — even without a subscription — to easily transfer their data to a new iPhone.

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Apple's Tim Cook Kicks Off WWDC, Offering Updates to FaceTime, Wallet

By Tim Higgins

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Apple Inc. Chief Executive Tim Cook kicked off the weeklong Worldwide Developers Conference, normally a pep rally for the company and its acolytes, with a **virtual event** streamed on the company's website that revealed software changes planned for this year.

Among changes found in the upcoming iOS 15 operating software for mobile devices, **Apple** announced plans for updates to maps, weather and wallet apps as well as a new way of handling notifications on the iPhone, including ways to get summaries during the day and to focus on work or personal items.

Other changes included updates to its texting system iMessage that include new ways to share photos and changes to its video calling software FaceTime that aims to improve sound quality by reducing ambient noise among other upgrades and allows use on rival Android and Windows devices.

"We're excited to share our latest technologies with you and with the incredible community of millions of Apple developers around the world," Mr. Cook said. "Your creativity and groundbreaking apps continue to deliver new and meaningful ways to enrich people's lives."

The annual conference arrived with something unusual for the iPhone maker: app developers unhappy about the terms of its App Store. This year's event comes on the heels of Apple's courtroom fight with "Fortnite" maker Epic Games Inc., which spotlighted the increasingly thorny relations some developers have with a company that controls access to the billion-plus iPhone users world-wide.

Last month's trial, in which Epic accused Apple of improper monopoly behavior, capped a year of rare dissension among app developers. The period has included public sparring with Facebook Inc. CEO Mark Zuckerberg and Mr. Cook's defense before Congress of Apple's behavior.

At the heart of developers' gripes is money. Some dislike new privacy rules Apple recently enacted that disrupted the digital-ad industry. Others loathe the commission, as much as 30%, that Apple takes on digital revenue generated through the App Store.

Apple has denied allegations that it is a monopoly and defended its commission as in line with rivals' and fair for the value it has created. Apple has said Epic wants to get around paying its fair share for using the App Store.

"The future of Apple's take rate with developers is the elephant in the room at this year's WWDC," said Gene Munster, managing partner at Loup Ventures, a venture-capital firm specializing in tech research.

After the Epic lawsuit was filed in August, Apple lowered its commission to 15% from 30% for apps with \$1 million or less in revenue, a decision that Mr. Cook said was connected to concerns for small businesses.

A small share of apps generate more than \$1 million. Most App Store apps are free and don't pay any commission. Free games generate money primarily through in-app advertising, for which Apple doesn't collect a sales cut.

The year of discontent began at last year's WWDC, when Apple said it planned to introduce new privacy tools in its iOS 14 mobile operating system. Developers, including Facebook, complained that it would disrupt their ad businesses. In-app ads are often targeted at users based upon data about their activity online, which is collected by apps. Developers spent months puzzling out new strategies to deal with Apple's privacy-policy changes, which now require users to agree to being tracked.

Mr. Cook has forcefully defended the change as a way to protect users' privacy and help them to control how their data is used. But, in January, Mr. Zuckerberg said Apple had every incentive to "use their dominant platform position to interfere with how our apps and other apps work."

On Monday, Mr. Zuckerberg took a new shot at Apple, saying Facebook wouldn't collect a cut of earnings from live performances, subscriptions and other forms of creator earnings until 2023. "And when we do introduce a revenue share, it will be less than the 30% that Apple and others take," Mr. Zuckerberg wrote on his Facebook page.

Amid the complaints, Apple has tried to highlight what Mr. Cook has called an economic miracle unleashed by the App Store.

Apple recently released a report that estimated that billings and sales facilitated by its App Store rose 24% to \$643 billion last year compared with 2019, fueled by quarantined users looking to avoid in-person interactions. Investors were rewarded last year with shares almost doubling in value.

The App Store is a big part of Apple's so-called services unit, the part of the company's business Mr. Cook is betting on to generate growth after previous years of slowing iPhone sales. Nick Rodelli, head of CFRA Legal Edge, an investment-research firm, estimates that app-store commissions, along with money generated from making Google the default search engine on its devices, account for 40% of Apple's pretax income.

Since launching the App Store in 2008, the number of available apps has grown to about 1.8 million from 500.

The tensions make this year's developer conference all the more consequential. Apple spends more than \$50 million putting on the event, according to court testimony by Phil Schiller, Apple's executive overseeing the App Store. In a typical year, 6,000 developers would attend in person and tens of millions more would watch online, he said. This year's 200-plus sessions are being held virtually and posted online.

During the Epic trial, U.S. District Judge Yvonne Gonzalez Rogers -- who is expected to rule on the case in the months ahead -- confronted Mr. Cook with survey data that, she said, indicated that 39% of developers were either very dissatisfied or somewhat dissatisfied with Apple's distribution services.

"How is that acceptable?" she asked.

In testimony Mr. Cook said he was unfamiliar with the document but noted that Apple rejects about 40% of apps submitted to the store each week. (An Apple lawyer later pointed to a 2019 internal survey that said 19% of developers reported dissatisfaction.)

"There is definitely some friction in the system," Mr. Cook said, adding that the tough standards ensure users have good experiences in the App Store.

The suggestion that 39% of developers are unhappy with Apple is a striking figure for those who have closely followed Apple. "Apple is used to having 99% satisfaction with their customer base," Ben Bajarin, principal analyst for Creative Strategies Inc., said.

--Jeff Horwitz contributed to this article.

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Commodities

Now Apple explores cryptocurrencies; looks to hire BDM for its 'alternative payments' division

Sandeep Soni

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Apple is adding itself to a growing tribe of corporates and institutions experimenting with cryptocurrencies. The iPhone maker in a job post titled "Business Development Manager – Alternative Payments" on Tuesday hinted towards its interest in exploring the crypto buzz. The company's payment vertical called **Apple** Wallets, Payments, and Commerce (WPC) is looking for a business development manager to lead its "Alternative Payments Partnerships", having over five-year experience with alternative payment providers including cryptocurrency apart from **digital wallets**, buy now pay later programmes, etc., the job post read.

"We need your help forming partnership framework and commercial models, defining implementation paradigms, identifying key players and managing relationships with strategic alternative payment partners," **Apple** said in the job post that will be located in its California headquarters.

"It is indeed a great sign that major companies are starting to adopt digital currencies. As true believers of decentralization, we have always seen this is as inevitable. It is the equivalent of banks getting computerized 20 years ago, but will probably have a much broader significance as it is of global relevance. Apart from just the technology, it will be keen to see its implication on how companies will use this for interacting with their customers," Pruthvi Rao, Co-founder & CEO of blockchain company Zebi told Financial Express Online.

The move by Apple builds on the company's possible intent to offer support for Bitcoin payments via its Wallet. According to recent media reports, Apple Pay is allowing users to spend Bitcoin. In February this year, BitPay, which provides Bitcoin and cryptocurrency payment services, had announced that US cardholders of its BitPay Prepaid Mastercard can add their card to Apple Wallet and spend with Apple Pay. As per Reuters, citing a research report by investment bank RBC Capital Markets in February this year, Apple has a "clear opportunity" to offer a buying and selling mechanism for cryptocurrencies -- a move that would allow it to immediately gain market share.

Also read: After Mark Cuban, Polygon's Sandeep Nailwal wants Tesla's Elon Musk to back his cryptoplatform

While the company is looking to explore cryptos, it was against the opinion of companies creating their own cryptocurrencies. "No. I really think that a currency should stay in the hands of countries. I'm not comfortable with the idea of a private group setting up a competing currency," Apple CEO Tim Cook had told French financial newspaper Les Echos in 2019, as per a Reuters report. The statement was in response to a question whether Apple would follow Facebook in launching its own cryptocurrency. Earlier in 2019, Facebook had announced Libra cryptocurrency.

Apple's crypto interest follows increased institutional backing as a host of large enterprises such as Tesla, JPMorgan, PayPal, MicroStrategy, Goldman Sachs, and more have been making a beeline for digital currencies particularly Bitcoin. Earlier this month, Facebook's Mark Zuckerberg had also hinted at his possible investment into the cryptocurrency after he posted a picture of his two goats – one of them named after Bitcoin – on Facebook. The previous Libra project had faced resistance from the regulators globally and was eventually unable to take off.

The suggestions/recommendations around cryptocurrencies in this story are by the respective commentator. Financial Express Online does not bear any responsibility for their advice. Please consult your financial advisor before dealing/investing in cryptocurrencies.

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The Washington Post

Sports

In Epic v. Apple's final day, a glimpse of what comes next

By Shannon Liao

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The Epic Games v. Apple trial wrapped up its final day on Monday. The antitrust case attracted broad attention due to the subject matter and the involved parties — two massive companies behind enormously popular products — and shed light on the secretive gaming industry. The trial birthed new memes and dragged in other gaming companies like Microsoft and "Roblox." Now, the dust is starting to settle as we wait for a decision later this year.

U.S. District Judge Yvonne Gonzalez Rogers said she'll do her best to sift through hundreds of exhibits entered into evidence to deliver a ruling within weeks, if not months. But there's a lot we already know: Here's everything that happened over the last three weeks, what we've learned and what's next.

The trial's final day

The year-long case began on August 13, 2020, when multibillion dollar games company Epic Games updated "Fortnite" on the Apple App Store to allow users to pay Epic directly, without going through Apple's payment system. The developer promised discounted prices if people used this alternative payment method, as Epic would pass on the savings from not having to pay Apple a 30% revenue commission. Apple responded by removing "Fortnite" from the App Store for violating its rules. Epic followed with a lawsuit, arguing that Apple had a monopoly over the App Store.

The trial kicked off May 3 with Epic Games CEO Tim Sweeney delivering testimony about why he believes Apple runs a monopoly that's harmful to competition. Sweeney was followed on the stand by Epic executives, third-party testimonies (including an Xbox vice president), then rounds of expert witnesses. It concluded with a group of Apple executives that included CEO Tim Cook. The proceedings wrapped Monday when the judge requested that both sides present their best arguments debate-style, in a legal practice known as "hot-tubbing."

During that session, Epic said it wants the judge to order Apple to open up the iPhone, allowing developers to distribute apps outside the App Store and allow payment outside of Apple's proprietary system. Currently, Apple only lets apps on its iPhones and iPads if developers submit them for review for distribution in the App Store, unlike the more open ecosystem consumers get on Android or desktop PCs, where apps can be downloaded from anywhere.

Apple has rejected the monopolist label, and claimed that Epic's proposed solution doesn't work because it would make the iPhone less safe and secure, and make payment collection a messier process. The iPhone-maker would like things to remain the way they are.

In an antitrust case, to determine whether a company has too much market power and is a monopolist, it's important for both sides to first define what the market is, and for the judge to decide which market definition she favors. Epic wants to define the market as the distribution of apps on the App Store, saying that you can only get apps from Apple right now, and it owns a monopoly. Apple says the market actually consists of mobile devices or gaming platforms, and that it competes with tech companies like Huawei, Oppo, Vivo and gaming consoles like the Nintendo Switch, Xbox Series X and the PlayStation 5.

The trial produced a number of strange moments. The judge and lawyers attempted to inject levity into the situation on multiple occasions, from chit-chatting about the latest Golden State Warriors basketball games, to discussing whether a banana character from "Fortnite" should be dressed for court.

There were also questions about defining the term "game." Gaming platform "Roblox" was repeatedly used by Epic as an example of Apple allowing an app that has games within a game. Apple marketing executive Trystan Kosmyrka responded in testimony by calling "Roblox" an experience. Soon after, "Roblox" changed language on its website to call itself an experience and not a game. The company declined to comment.

The judge used Monday to ask hard questions, expressing skepticism at some of the arguments made by both companies. She told Epic that "there is an enormous amount of innovation on the iPhone" that allows games like "Fortnite" to be played. Epic Games lawyer Gary Bornstein conceded that point, but countered that it didn't change the fact Apple has a monopoly on app distribution.

Jennifer Rie, senior litigation analyst at Bloomberg Intelligence, said it wasn't surprising the judge was skeptical of each side's arguments.

"The case is difficult and novel and the judge is in a tough position," Rie said, "It will require a decision at the outer edges of antitrust precedent, without good corollaries for guidance, and the remedies sought by Epic are drastic and intrusive. She's also in a no-win situation. If she rules for Apple, there will be a lot of politicians and some antitrust advocates up in arms about it."

What's next? When could 'Fortnite' come back to the Apple App Store?

Gonzalez Rogers also said she was considering whether there was enough legal precedent and evidence to prove Apple is running a monopoly but that there could be anticompetitive behavior. That could invoke California's Unfair Competition Law, rather than the Sherman Antitrust Act. "Well, they don't call us the Wild West for nothing," she quipped about California's more flexible legal landscape.

The Epic v. Apple trial may have come to an end, but it certainly won't be the last of large, attention-grabbing antitrust suits in the video games industry: Sony is facing a federal antitrust class-action suit in California filed May 7 for allegedly overcharging on PlayStation 5 games. That case could take years to make it through court to be potentially decided by a jury. Sony declined to comment. The plaintiff's lawyer, Joseph Saveri, said on the phone, "We think this is a case involving serious anticompetitive activity and economic harm. We're confident in our case and we're looking forward to presenting our case to the jury."

The judge's remarks on Monday hint at what she's thinking for a verdict. Experts told The Washington Post that it's unlikely that Epic Games will win outright, but Apple could be asked to change some of its App Store guidelines. Much has been made of Apple's app store guidelines that bar developers from pointing users to alternative ways to purchase in-app products, for example. One possibility is that the judge could rule that Apple needs to reverse these guidelines as a compromise.

Even if Apple wins, it will still face scrutiny from the federal government and a class-action lawsuit from developers calling the App Store a monopoly. And regardless of who wins, the losing side will likely appeal the decision.

"Under current U.S. antitrust law, and particularly given how conservative courts have been in antitrust cases in the last 40 years, it will be very interesting how the judge rules on this case," said Florian Ederer, associate professor of economics at the Yale School of Management. "Perhaps it will be the beginning of another watershed moment in tech antitrust."

In the meantime, "Fortnite" still won't be on the Apple App Store, at great cost to Epic and Apple. We learned from Apple testimony last week that the tech giant made over \$100 million from "Fortnite" in its last 11 months on the App Store, and spent about \$1 million on marketing for "Fortnite" in a year. Apple has said it would allow "Fortnite" back on the App Store if Epic complies with its rules, but Epic has refused. Those who have downloaded "Fortnite" and already have it installed can still play, but they're limited to the August 13, 2020 version of the game and can only play with other mobile users.

As Apple CEO Tim Cook put it last Friday, "The user is caught between two companies."

Read more:

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Document WPCOM00020210525eh5p005y1

The New York Times

Technology

In Antitrust Trial, Tim Cook Argues **Apple** Doesn't Hurt App Makers

By Jack Nicas, Erin Griffith and Kellen Browning

1,555 words

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NYTFEED

English

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The chief executive of **Apple**, which was sued by the **gaming** company Epic, said his company had invested heavily on security and had lowered some fees in its App Store.

[Tim Cook](#), testifying on Friday in a trial that could undermine **Apple**'s efforts to fend off growing scrutiny of its power, defended his business from accusations that it hurt app makers while on the hunt to expand its profits.

Mr. Cook, who took the witness stand for the first time as Apple's chief executive, answered friendly questions from an [Apple](#) lawyer and faced pointed questions from both an opposing lawyer and the federal judge who will decide the case.

The trial's outcome could maintain Apple's dominance of the \$100 billion app market or upend it. [Epic Games](#), creator of the popular game Fortnite, [is suing Apple](#), claiming that the iPhone maker has created a monopoly with its App Store and uses that power to take an unfair cut from other companies that rely on the App Store to reach customers.

An Epic victory would invigorate an expanding antitrust fight against Apple. Federal and state regulators are scrutinizing Apple's control over the App Store, and [the European Union has recently charged Apple](#) with violating antitrust laws over its app rules and fees. Apple faces two other federal lawsuits about its App Store fees — one from developers and one from iPhone owners — that are seeking class-action status.

Mr. Cook's testimony came toward the end of a three-week trial in an Oakland, Calif., federal court that has homed in on the power that Apple wields with its App Store and the 30 percent commission it takes on sales of most digital goods and subscriptions.

He entered the courthouse on Friday morning from an underground garage rather than its main entrance, which allowed him to avoid photographers gathered outside the front of the building. About 7:30 a.m., journalists spotted him going through security checks inside and shouted questions. Mr. Cook, wearing a dark gray suit, white shirt and gray tie, held up his hand in a peace sign.

For over an hour, an Apple lawyer led Mr. Cook through complaints against Apple, allowing him to explain why Apple conducted business a certain way — and why it wasn't harming app developers.

Mr. Cook testified that Apple faced plenty of competition, and he said commissions that Apple collected from app developers helped fund better security in the App Store. "There's a conflict between what the developer may want and what the consumer may want," he said. He added that Apple had lowered app-store fees for many developers much smaller than Epic.

In a cross-examination, an Epic lawyer took aim at Mr. Cook's credibility and questioned why Mr. Cook said he did not know some details of Apple's business, including the profit margins made from the App Store, which one outside expert testifying on behalf of Epic said could be as much as 80 percent.

Mr. Cook said that was wrong. He said the App Store was profitable, but Apple had not tried to determine precisely how profitable, in part because it would be difficult based on how Apple structured its costs.

The Epic lawyer challenged that claim, showing Mr. Cook internal Apple documents that suggested the company could calculate the App Store's profitability. Mr. Cook countered that the documents showed incomplete figures.

The Epic lawyer then spent time on a topic tangential to the trial but appeared intended to illustrate hypocrisy at Apple: The way the company operates in China, which undercuts Apple's public enthusiasm for consumer privacy. The New York Times reported this week that [Apple had put its Chinese users' data at risk](#) and aided the Chinese government's censorship by proactively removing apps.

While Mr. Cook said Apple had to follow the laws in China, the Epic lawyer noted that other companies uncomfortable with Chinese policies had left the country. “I know of nobody in the smartphone business who’s not selling into China,” Mr. Cook replied.

The most concerning moment for Mr. Cook and Apple came at the end of his testimony, when Judge Yvonne Gonzalez Rogers of the U.S. District Court for the Northern District of California joined in the interrogation of Mr. Cook.

Throughout the trial, Judge Gonzalez Rogers asked pointed questions of witnesses from both Apple and Epic, and her back-and-forth with Mr. Cook on Friday revealed particularly intense scrutiny of Apple’s arguments. Why couldn’t Apple allow iPhone owners to have more options to purchase apps, she asked, especially if it meant lower prices for consumers?

“If you allow people to leak out like that, we would, in essence, give up our total return on our” intellectual property, Mr. Cook replied.

The judge asked whether Apple’s decision last year to reduce its commission on app sales for developers who earned less than \$1 million a year was designed to deflect scrutiny of Apple’s App Store policies. Mr. Cook acknowledged scrutiny was a factor, but he added that Apple mostly wanted to help small developers affected by a weak economy during the coronavirus pandemic.

Judge Gonzalez Rogers then brought up a survey that said 39 percent of app developers were dissatisfied with how Apple managed the App Store. “It doesn’t seem to me that you feel, again, real pressure or competition to actually change the manner in which you act to address the concerns of the developers,” she said.

The judge’s biggest challenge in deciding the case may be defining the market that Epic and Apple are fighting over.

Epic’s lawyers have argued that the case is about iPhone apps and that a game maker has to go through Apple’s “walled garden” to reach the more than a billion people who use the devices. That stifles innovation, Epic claims, and allows Apple to enforce strict rules and harm app developers by charging excessive fees. The company wants to host its own digital storefront within Apple’s.

Mr. Cook said on Friday that he was “not a gamer,” but he argued that Epic distributed its games in a number of ways, including on web browsers, gaming consoles and personal computers. Many of those platforms charge a commission similar to that of the App Store. If gaming is the market, Apple has argued, then there are many competitors — like Microsoft, Sony and Nintendo — so Apple cannot have a monopoly.

Judge Gonzalez Rogers expressed frustration over the market semantics. “One side will say it’s black, the other says it’s white — typically it’s somewhere in the gray,” she said last week.

Earlier in the trial, Trystan Kosmynka, a senior director at Apple, testified that the company rejected 40 percent of total app submissions in 2020. Apple could not effectively police which apps find their way onto iPhones if Epic had its own app store, Mr. Kosmynka said.

Epic responded with a flurry of internal Apple emails showing times when harmful apps made it past Mr. Kosmynka’s team. One app, which was released during the Black Lives Matter protests over the summer, was a game that allowed users to shoot cannons at protesters.

Apple tried to show why allowing an app store within an app store could be problematic. Its lawyers criticized Epic’s digital storefront for not maintaining tight enough control, saying companies had managed to use it to sell games that they called “offensive and sexualized.”

In an attempt to tie Epic to unsuitable content, Richard Doren, a lawyer for Apple, brought up Peely, a cartoon banana in Fortnite that sometimes wears a tuxedo and sometimes goes nude. Mr. Doren implied that it would have been inappropriate to display Peely without a tuxedo in a federal court. Matthew Weissinger, vice president of marketing at Epic, clarified that Peely, naked or suited, was not scandalous.

“It’s just a banana man,” he said.

The fight between the companies began in August, when [Epic violated Apple’s rules](#) by circumventing Apple’s payments system in the Fortnite app. Apple removed Fortnite from the App Store, and Epic immediately sued the company and began a promotional campaign around the suit.

On the first day of the trial, Epic’s chief executive, Tim Sweeney, [testified](#) that his company had filed suit because he wanted to show the world the consequences of Apple’s policies. Judge Gonzalez Rogers interrupted to ask whether Mr. Sweeney had known about a different developer’s lawsuit against Apple.

Mr. Sweeney said he had.

"And you just ignored that and went on your own," the judge responded.

The trial will wrap up on Monday, but Judge Gonzalez Rogers said a ruling would probably take months. "Hopefully, before Aug. 13," she said. She also said her decision would probably be appealed, meaning the trial could be just the first chapter of a longer fight.

Documents in the case being wheeled from the courthouse at the end of the first day of the trial. | Jim Wilson/The New York Times | Tim Sweeney, the chief executive of Epic Games, entering the courthouse this month. | Jim Wilson/The New York Times

Document NYTFEED020210521eh5l007pt



Apple pushes back against Epic claims to defend app-payment system

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MarketWatch

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English

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MarketWatch illustrationEpic Games v. Apple got into the weeds Tuesday, as the gaming company's main economic witness clashed with an attorney for the iPhone maker.

David Evans, chairman of Global Economics Group, picked up where he left off Monday. For a second day on the stand, he asserted Apple Inc. AAPL has maintained a monopoly for more than a decade over the iOS in-app payment solutions for digital content, which has harmed consumers by raising prices for developers, who pass on some portion of their fees to consumers.

"Apple has substantial market power" in smartphone operating systems, Evans said Monday. Apple and Google's Android, he concluded, are a duopoly that have controlled 100% of the smartphone OS since 2013. Globally, excluding China, the split is 60%-40% Android; in the U.S., it's about even, he said.

Read more: [Epic takes aim at Apple's financial advantage in App Store model](#)

When pressed by Apple attorney Daniel Swanson, Evans said he would "guess we've been retained" in the Google Play antitrust litigation. Swanson pointed out Evans previously had not testified in antitrust litigation during a grinding cross-examination that got into the weeds of defining in-store app payments.

Apple's game transactions are not substitutes for digital game transactions on the Sony PlayStation store nor Valve Corp.'s Steam, according to Evans. "They are not significant substitutes in the way we use the term," he said.

Swanson countered, however, that 11 apps use their own payment processing: Grubhub Inc. GRUB, Wish, StubHub, Uber Technologies Inc. UBER, DoorDash Inc. DASH, Lyft Inc. LYFT, Instacart, Postmates, Amazon Shopping AMZN, Walmart Inc. WMT and eBay Inc. EBAY

"When I go to the App Store, it's because there's an app I want to get," Evan replied. "I don't go to the App Store and troll around for apps that have in-app purchases."

"By and large in the world we live in now, we are smartphone-based and app-based for much of what people do," Evans said later. "I don't believe that's really a realistic option."

An Apple legal strategist characterized Evans' testimony as evasive and stalling, and the economist struggled to pin down when the App Store became a monopoly.

Epic ended the day with Susan Athey, economics of technology professor at Stanford University's Graduate School of Business, on the stand. She's a former top economist at Microsoft Corp. MSFT, and currently advises Expedia Group Inc. EXPE, car-sharing company Turo and Rover.com, which operates an online marketplace for people to buy and sell pet-care services. (An Apple lawyer dwelled on Athey's work for Microsoft.)

While Tuesday's dry proceedings were hardly grab-the-popcorn stuff, they are considered crucial in defining what constitutes a relevant market in the federal case. Epic Games Inc. faces an onerous task in establishing that Apple broke antitrust law with an ecosystem that gouges developers, who pass those costs to consumers, legal experts say.

"The question is, can Epic define these tech markets based on large ecosystems, with inherent monopoly power?" longtime antitrust attorney David Kesselman told MarketWatch. "If it can't, then the onus is up to Sen. [Amy] Klobuchar and others to change the law."

Regardless of Judge Yvonne Gonzalez Rogers' decision in the bench trial, Kesselman expects it to be appealed to the Ninth Circuit court of appeals.

Evans, whom Epic is leaning heavily on to prove its case, has detailed Apple's monopoly in smartphone operating systems as the relevant market in question in the federal trial being held in Oakland, Calif.

Smartphones and game consoles are different types of markets, he stressed, with iOS and Android examples of a "general purpose operating system" used for multiple apps, while game consoles are a special operating systems dedicated to gaming. It is Epic's contention that Apple has abused its dominance on the App Store to charge developers 30% commission fees; Apple counters that 30% is the industry average on similar app stores run by the likes of Alphabet's GOOGLGOOG Google, Samsung Electronics Co. Ltd. KR:005930, Sony Group Corp. SONY and others.

Larry Downes, project director at the Georgetown Center for Business and Public Policy's Evolution of Regulation and Innovation, has a contrarian view.

Downes believes the case boils down to whether Apple engaged in an abuse of market power that is harmful to consumers through higher prices, and the fore-closing of competition to developers.

On Tuesday, Apple poked a hole in Epic's assertion during the trial that fraud is rampant on the App Store because of a slipshod review process. Apple said its review team [stopped more than \\$1.5 billion in potentially fraudulent transactions last year](#) by keeping nearly a million risky and vulnerable apps out of the store.

Apple's case could start as early as Friday. Apple Chief Executive Tim Cook is scheduled to be the last witness.

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Metro & State
A couple of GoGetters

JENNY RUDOLPH
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619 words

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The Dallas Morning News

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English

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Brothers Mohammad and Ahmad Gaber share a passion for health care and technology. So when the COVID-19 pandemic engulfed the nation, they were “appalled” by flaws they perceived in the U.S. health care system. At a time when little was known about the virus, testing results that came back three weeks later did little to help patients, provided few answers and defeated the purpose, said Ahmad, a California native who now lives in Irving. He called his older brother, who had just entered lockdown in San Francisco, and they plotted their next move. They partnered to create GoGetTested, a website that helped residents of Texas and other states receive simple testing. Within months, tens of thousands of people were being tested at over 250 sites in 35 states. Now the Gaber brothers are expanding from their original platform to create GoGetVax, a tech startup with services that allow users to upload their paper vaccination cards to **digital wallets** like **Apple** Wallet and Google Pay.

The services are free. “We built a very simple tool that allows consumers to book their vaccine appointments and enables local governments to administer vaccines to as many people as they can,” said 42-year-old Mohammad, who runs a health care financial technology platform in San Francisco. After hearing members and patients express anxiety over losing their physical vaccine cards, they came up with VaxYes.com, a complementary service that’s free to members of the platform. Demand for safe and convenient proof of vaccination is expected to rise as travel and events resume. The platform protects users’ security through a multistep human and artificial intelligence-based verification process. Over 10,000 people have already received vaccination cards through the digital service. Other companies also are working on passport-like products for vaccination cards. For example, Grand Prairie-based secure ID technology firm Sandia International developed a product that uses encryption similar to a QR code to create a vaccination credential that can be accessed and validated digitally. The Gabers attributed the quick rollout of their testing and vaccination platforms to their partnership as brothers. “If I didn’t have a brother who ran a health care technology company, it would have been a much longer process,” said Ahmad, 33, who runs WellHealth, a primary care provider with offices in Frisco and Las Colinas. “We got it done in weeks instead of months, so we were making significant strides week-over-week.” GoGetVax did have challenges along the way. In rural areas lacking a supply chain to offer testing, the brothers had to overcome technology and logistics issues. That didn’t stop self-proclaimed “serial entrepreneur” Mohammad from managing a team of 20 engineers, while Ahmad oversaw 3,000 to 4,000 employees during the peak of COVID-19 testing. “People just wanted to help and be part of the solution,” Mohammad said. GoGetVax also recently opened a cross-border testing platform in Mexico to support U.S. travelers looking to travel south for the summer. They declined to share financial details about their operations but said more than 1 million people have been served across all GoGet platforms. And they’re exploring other ways their companies can work together. “The pandemic has highlighted that regardless of where you live, what access to health care you have, or how good your health insurance is, it doesn’t discriminate whatsoever,” Ahmad said. “It has driven home for a lot of folks that health care is something that needs to be good for everybody. We’re trying to make those things a reality.” Twitter: @JennyRudolph7 Brothers partner in health care

Document DAL0000020210511eh5b0000d



Apple vs. Epic: Why cloud gaming became a hot topic at landmark antitrust trial

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MRKWC

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Nvidia and Microsoft executives testified on behalf of 'Fortnite' maker, which is trying to make the case that Apple's treatment of competitors to Apple Arcade shows illegal use of monopoly power

Ethan Swope/Getty ImagesThe headlines in week one of the Epic Games Inc.-Apple Inc. trial were mostly about exorbitant commission fees charged by the App Store. But a compelling strategy from Epic in its attempt to paint Apple as a monopolist emerged from its depiction of Apple's treatment of competing cloud-gaming platforms.

As the scheduled three-week trial nears the conclusion of its first week, a major crux of Epic's case is that App Store has restrictions that aren't tenable for some developers, creating a lopsided competitive landscape for Apple Arcade, a videogame subscription service available on iOS.

A Microsoft Corp. MSFT executive revealed the software giant spent four months discussing with Apple AAPL how to launch xCloud as a native app, only to claim Apple demanded Microsoft, Nvidia Corp. NVDA, and others list cloud games as separate apps.

Submitting Xbox games one-by-one was too onerous, Lori Wright, vice president of business development at Microsoft, said, forcing Microsoft to resort to making a web app. This not only represented a technological hurdle for Microsoft, she said, but also inconvenienced consumers. Users aren't used to installing apps from the web on their iPhones.

Apple allows services that stream movies to offer them all in a single app, but forces services that stream games to separate each game for individual listing and review. "I can use Netflix NFLX with a native app and I can see lots of different movies or TV shows or whatever. Is it that you didn't want to use a subscription model?" a confused Judge Yvonne Gonzalez Rogers asked at one point.

Safari on the iPhone only recently became capable of supporting a service like Xbox Cloud Gaming via specific controller support.

Earlier this week, an executive from Nvidia Corp. NVDA explained how it had tried to get its GeForce Now cloud gaming service into the App Store, but had faced the same restrictions as Microsoft.

"There are less controls over the streaming, so you could argue in some ways it's worse," than a native app, said Aashish Patel, Nvidia's director of product management.

(An Nvidia spokesman, citing a quiet period before the company's earnings report May 26, declined to comment further.)

Apple's exacting rules hampered Epic and others, its attorneys hammered home, at a time when mobile-gaming sales are expected to improve 6% to \$90.7 billion this year, more than half of an otherwise flat \$175.8 billion global market, according to Newzoo.

In a few instances this week, Epic lawyers attempted to portray Apple Arcade as a competitor to other game apps such as Google Stadia. The testimony of Wright, and general tone of Microsoft's stance in the trial — both on the stand in the public forum — agitated and bemused Apple.

Late Thursday, an Apple representative characterized Epic's case so far as the "cherry-picking" of a few disgruntled developers.

A member of Apple's legal team late Wednesday called out Microsoft's "hypocrisy" for its holier-than-thou posture on antitrust, given its long history of legal jousting with the Justice Department over anticompetitive business practices. He said it was "kind of ironic that Microsoft is here, trying to prove that Apple is a monopolist. Is it a way to change history? I don't know."

By aligning itself with Epic, the Apple representative said, Microsoft had adopted a “very risky strategy” while mimicking Apple’s business model, “a good, highly successful business model.”

He added that Epic faces a mountainous burden to prove its case based on anecdotes and some colorful emails.

Indeed, Epic faces steep odds in proving antitrust charges against Apple, several antitrust experts agree, but the cloud-gaming competition angle offers an intriguing legal gambit.

“The experience of playing ‘Fortnite’ can be kludgy on iOS, yes, discouraging players,” Ari Lightman, professor of digital media and marketing at Carnegie Mellon University’s Heinz College, told MarketWatch. “The argument makes sense, but when you get to the phone environment, it is a different ecosystem.”

In a recent blog post, Google GOOGLGOOG software engineer Alex Russell outlined a long list of all the features that Safari on iOS does not support under the headline, [“Do App Store policies harm developers? Is the web a credible alternative?”](#)

Epic’s focus on cloud-gaming competition offered a technological bookend to its economic argument that Apple has abused its multibillion-dollar App Store platform to enrich itself while harming developers. During an overview of confidential documents early Thursday with Matthew Fischer, vice president of the App Store, Epic attorney Katherine Forrest showed that by late 2010, Apple already had \$2.1 billion in cumulative billings from the App Store. Initially, Apple co-founder Steve Jobs did not envision the App Store as a big money maker when it was launched in 2008, Epic lawyers have repeatedly stressed.

Fischer acknowledged Apple had not studied whether increases in price on the App Store caused users to switch from iPhone to Android nor had it studied how much an iPhone user spends on apps over the life cycle of their smartphone.

Fischer did admit an Apple survey found “developers don’t believe that the App Store enables profitability of their apps.”

While the cloud-gaming argument shows Apple’s “market power,” antitrust attorney Valarie Williams maintained that “restrictions that lead to higher prices is an easier legal standard” for Epic to prove its case.

Apple has rejected apps for trying to use alternative payment systems, Fischer said, though he acknowledged the company has not studied whether systems from PayPal Holdings Inc. PYPL, Amazon.com Inc. AMZN, Braintree, Stripe, Square Inc. SQ or Epic Direct Pay are as secure or private as Apple’s in-app purchase system.

“I might be biased, but I think that what we do is incredibly unique,” Fischer said under questioning from an Apple lawyer. “I have not see any marketplace that distributes apps or games do what we are doing in terms of providing marketing and editorial support like this to developers.”

Fischer detailed a largely positive relationship with Epic Games since 2010, but said he had not talked to a company representative since June 2020 and was “blind-sided” by Epic Chief Executive Tim Sweeney’s email in August 2020 critical of Apple.

The trial got off to a bumpy start Thursday, when federal judge Yvonne Gonzalez Rogers chastised lawyers from each side: “You have 45 hours each for this trial. And yesterday, I was wondering if I gave you too much time,” she said.

Epic could wrap up its case next week, followed by Apple’s presentation. Apple has made it clear it intends to show that Epic attempted to skirt the App Store with a payment system of its own in an audacious bid to enrich itself in what amounts to a breach of contract.

“My feeling is that Epic has lost the plot” in proving Apple is a monopoly, said an Apple legal strategist late Thursday. It has been a fact-free complaint session, he added.

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Apple v. Epic: Time is running out for Epic to make its antitrust case

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With roughly half of time allotted for Epic gone, experts say 'Fortnite' maker's court case is part of a longer-term public-pressure strategy with an ultimate goal of rallying developers, angering consumers and getting federal regulators to act

MarketWatch illustrationAs Epic Games Inc. methodically made its case in the opening week of its antitrust trial v. **Apple** Inc., it carefully laid out economic and technological evidence that included testimony from representatives of other major **gaming** developers and some eyebrow-raising email exchanges among **Apple** executives.

But as the company approaches the home stretch to drive home its points, some legal experts wonder whether Epic is running out of time.

"From a legal standpoint, they have established nothing in terms of antitrust. They haven't shown the practices they are complaining about are harming consumers," Larry Downes, project director at the Georgetown's Center for Business and Public Policy's Evolution of Regulation and Innovation project. "This is about lining up other participants [such as Sony and Microsoft] in the ecosystem against Apple, to upset consumers, and force Washington to enact legislation."

Florian Ederer, an associate professor of economics at Yale School of Management, lauded Epic's legal team but expects Apple AAPL to win the case based on what Epic has presented. The longer-term strategy for Epic, he said, is to "get some form of long-term regulation" on commissions demanded by digital platforms.

In what many are increasingly calling the internet's trial, Epic has scored with the testimony of Microsoft Corp. MSFT and Nvidia Corp. NVDA officials on Apple's prohibitive policies toward competing cloud-gaming platforms, and compelling email in which Apple executives discussed market dominance. In an infamous 2010 [email](#), the late Apple co-founder Steve Jobs expressed his desire to "tie all of our products together, so we further lock customers into our ecosystem."

Read more: [Why cloud gaming became a hot topic at landmark antitrust trial](#)

And the strongest witness for Epic is yet to come. Epic's lead expert economist, David Evans, chairman of the Global Economics Group, is expected to explain how "distributing its apps through the App Store" caused Epic to pay "supra-competitive commissions and been deprived of the benefits that would flow from a competitive market."

Apple has been especially mindful of Evans. In March, a judge granted Apple's motion for a 14-hour deposition of Evans, whose 653-page report on the case covers nearly every disputed economic issue in this lawsuit.

"Epic's opening slides had no mention of output or prices, no mention of consumer experience, no mention of the law under which it has the burden, and no mention of its own lead economist, Dr. Evans, upon whom its entire case relies," Apple attorney Karen Dunn said in her opening statement Monday.

From the start, Epic has faced a tall order: Convincing a federal judge that Apple AAPL broke antitrust law and fomented a monopoly through its App Store.

Antitrust experts like Downes are adamant Epic hasn't shown enough so far to convince Judge Yvonne Gonzalez Rogers that Apple punished developers with a hefty 30% commission that was passed on to consumers and gave the iPhone maker an unfair advantage over competing apps. Epic needs to convince Rogers that the relevant market at the core of this case should be defined more narrowly as iOS apps.

Epic's best path to legal victory may be the assertion that rival platforms — in particular, Android phones — are not reasonably interchangeable with iOS because of the "walled garden" constructed by Apple, according

to Ari Lightman, professor of digital media and marketing at Carnegie Mellon University's Heinz College. Nonetheless, he deemed Epic's chance for success as minimal.

Don't miss: [What to expect from a trial that could change antitrust law and the mobile-app ecosystem](#)

[Epic got off to a rocky start the first two days](#) of the expected 3-week trial on Monday with the testimony of its lead witness, company chief executive Tim Sweeney. His at-times inaudible responses and admission he would have accepted a side deal with Apple to avoid 30% commission fees undercut his effectiveness, according to Apple legal strategists and some antitrust experts said.

"He was our most effective witness," an Apple representative gleefully said several times during the week.

Sweeney's time-consuming stint on the stand — he was frequently asked to define the functions of a console and gaming terms — also cut into Epic's allotted 45 hours to make its case. (Apple also has 45 hours to present its side.)

Indeed, the languorous pace of some questioning and proceedings seemed to wear on Judge Gonzalez Rogers, who requested both sides to expedite things.

Apple, which could start its case as early as next Friday, is expected to chip away at Epic's case through a number of counterarguments. It will contend App Store is not a monopoly, and that people can download games on Android phones, gaming consoles, and desktop operating systems. It will assert Epic's motivation all along has been a greedy, money grab to enrich company coffers after years of working successfully with Apple. (Georgetown's Downes refers to the suit as a "power play" in a contract dispute to help Epic's bottom-line.)

And, most important, Apple defines the game distribution market includes the Android mobile operating system, Xbox, and laptops.

"All of Epic's claims depend on its ability to define the relevant market, the universe of reasonable substitutes," Apple attorney Dunn said Monday. "Epic's main economist, Dr. David Evans, proposes a single brand aftermarket of iOS app distribution containing all apps in the app store."

"The App Store is a store. And like many stores, it is full of products that are not substitutes for each other," she said. "Fortnite is not a substitute for Waze and it's not a substitute for the Starbucks app. Under the law, including in the Ninth Circuit, for Epic to cluster all these non-substitutes together, it would have shown that products in the store are subject to the same competitive conditions. And Epic cannot show that."

Document MRKWC00020210507eh5700di5

The Washington Post

Sports

Epic Games trial has exposed the 'Fortnite' maker's inner workings. Here's what we learned.

By Shannon LiaoMikhail Klimentov

1,326 words

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As **Apple** and Epic Games face off in court over the fate of "Fortnite" on iOS, both companies have entered over 100 documents into evidence to make their case. Many of these documents — which range from financial spreadsheets to internal presentations and emails — belong to Epic, and give the public unprecedented insight into the private company's strategy and finances.

Epic Games has made waves in the **gaming** industry for offering free games in its digital store about every week. One slide show uploaded into evidence on Monday revealed how much Epic paid developers to agree to those deals.

One spreadsheet displayed the mind-boggling sums Epic paid in commission fees to third-party platforms, including Microsoft, Sony and Apple, for "Fortnite" and other titles. Another document showed that the company's 2019 efforts to throw over \$70 million in cash prizes at teens and young adults playing "Fortnite" in competitions failed to provide a good return on investment, with another revealing that in 2019, Epic's gross revenue fell below its projections in part due to its esports investment.

These documents don't necessarily reflect the current state of Epic's business; many date back to 2018 and 2019. But they shed light on a private company that has reshaped the video game industry, and now seeks to do the same in the mobile app market.

We're compiling key takeaways as we comb through the documents uploaded each day to a public Box folder. This story will be updated as we continue to read the files.

The unprofitable Epic Games Store

Since its launch in December 2018, Epic Games has courted developers for its eponymous Games Store, seeking to publish certain games exclusively and offer other games free. But few details have been shared about Epic's efforts to get games on its platform and the company's underlying strategy — until now.

In testimony Tuesday, Epic Games CEO Tim Sweeney admitted to Apple counsel that the Epic Games Store is projected to have incurred a \$719 million loss by the year 2027, even if it doesn't allocate costs across the company. Sweeney also confirmed estimated earnings from the store that year would be \$5 million, when asked by Apple's attorneys.

By highlighting how the Epic Games Store is not profitable, Apple is trying to show that a 12% commission like Epic charges is not sustainable for running an app store, and that a 30% commission such as what Apple charges makes business sense, according to the tech giant.

An internal Epic Games presentation from October 2019, is the clearest demonstration of Epic's user acquisition strategy — and its long term ambitions. The Epic Games Store's first free game, "Subnautica," brought in approximately 1.5 million new users on its first day of availability. Epic paid the developer, Unknown Worlds, \$1.4 million to offer the game free of charge on its platform.

It was not for nothing: The offer brought 804,052 new accounts to the Epic Games Store and by Epic's calculation, each user cost the company \$1.74, according to evidence uploaded on Monday. The presentation notes — in bold type — that the store's growth is driven by exclusives and similar deals.

This approach to gaining users is cheaper for Epic than taking out advertisements on social media and gets money in developers' hands, Epic Games CEO Tim Sweeney said in an interview in December 2020.

"If I'm trying to bring a new user to the Epic Game Store through Google or Facebook advertising, it costs about \$5 per user," Sweeney said. "And it sucks because when Facebook sells an ad on a creator's, on someone's Facebook page, Facebook gets all the money and the creator gets nothing."

Unknown Worlds was paid more than most of the other developers detailed in the document, with many notable names, including Jackbox and Ubisoft, arranging mere five-figure deals with Epic. Free games led to approximately 5 million new users on the platform, costing Epic approximately \$2.37 per new account.

On another slide, Epic calculated the benefits of its exclusivity arrangement around the game "Borderlands 3." In its first two weeks, "Borderlands 3" made approximately \$100 million in revenue. From just those two weeks of sales, Epic walked away with a 12% cut, totaling \$9.2 million. The offer attracted 1.56 million users, 53% of whom were new to the Epic Games Store. Epic declined to comment.

While Valve's Steam PC games store commands the market, Epic has worked to wrest market share from Steam through exclusivity arrangements and free game offerings. Most Epic Games Store users were lured to the store by some kind of free offering; thus far, Epic has turned about 7 percent of those users into paying customers on the Epic Games Store, according to the exhibit.

Beyond courting players, Epic is attempting to disrupt the dominance of Valve's store — which is viewed as a near-default for PC gamers — by offering developer-friendly policies. For example, Epic takes only a 12 percent revenue cut from developers, less than the 30 percent commission that Steam and Apple charge.

The Epic Games Store has yet to turn a profit. Sweeney said in testimony Monday that the Epic Games Store is "hundreds of millions of dollars short of being profitable" because of upfront costs, and is expected to become profitable "within three or four years."

Paying 30% to platforms

Epic Games has paid billions in commissions to third-party companies hosting "Fortnite," such as Microsoft, Sony, Nintendo and Apple, according to evidence filed on Monday. The vast majority of these payments, listed in a Microsoft Excel file shared with the court, relate to "Fortnite." A smaller percentage is accounted for by "Rocket League" and a handful of other Epic properties.

Between January 2017 and October 2020, Epic Games paid \$237 million in commissions to Apple for "Fortnite." By comparison, in 2020 alone, payments to Microsoft (\$245 million) and Sony (\$451 million) exceeded Epic's total commission payments to Apple.

Crucially, though, Epic's case is not just about the costs imposed by Apple. Epic's case revolves around antitrust questions — namely, whether Apple has a monopoly on the App Store.

"Antitrust doesn't really set prices," Randy Picker, a professor of law at the University of Chicago, told The Post in August 2020. "Antitrust regulates, as it were, mechanisms. And those mechanisms generate what prices they generate. But [antitrust is] not in the price-setting business."

The spreadsheet also details revenue Epic collected from "Fortnite," "Rocket League" and "other" titles from 2017 through 2020. Epic's net income — meaning their final takeaway, after projected taxes and expenses — peaked in 2018 at over \$2 billion. In 2019 and 2020, that figure dropped to \$546 million and \$302 million, respectively.

Betting big on esports

In 2019, Epic Games staged the Fortnite World Cup event in New York that featured a prize pool of \$30 million, in addition to millions in other cash prizes it handed out that year. Back then, Epic drew skepticism around the event's profitability. The stadium wasn't full, and the event didn't appear to have many sponsors.

Now, the picture of Epic's esports investment in 2019 is clearer. The company "overestimated" how much money it could make off esports in 2019 by \$154 million, according to a financial document entered as evidence in the trial.

In emails from 2019 entered into evidence, Epic employees discussed partnering with Apple and making the tech giant the "presenting sponsor" for the Fortnite World Cup, which could "give us some more leverage with Apple." Ultimately, the World Cup was held at the Arthur Ashe stadium with no significant branding.

This is a developing story, and will be updated over time.

Document WPCOM00020210504eh54006bt

The New York Times

Business/Financial Desk; SECTB

What's a 'Metaverse'? Round 1 of Epic v. Apple Opens With a Tour.

By Erin Griffith

1,171 words

4 May 2021

The New York Times

NYTF

Late Edition - Final

1

English

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Epic has accused **Apple** of unfairly using its App Store's power to take a cut of the money made in Fortnite, a popular online game.

OAKLAND, Calif. -- Cosmetics. Digital dances called "emotes" A currency called V-Bucks. Virtual concerts. Fortnite, the popular **gaming** platform, is more than just a game. It is a "metaverse," full of virtual life, said Tim Sweeney, chief executive of Epic Games, the company that created Fortnite.

And Apple, he argued in federal court on Monday, wants an unfair cut of the money to be made in the Fortnite metaverse.

Mr. Sweeney offered a granular explanation of Fortnite to paint an expansive portrait of his company's world on the first day of what is expected to be a three-week trial, pitting Epic against Apple in a fight over Apple's App Store fees and other rules that could reshape the \$100 billion app economy.

Epic sued Apple in August, arguing that Apple is unfairly leaning on its control of the App Store to extract an unfair cut of the money Epic makes from selling digital goods inside Fortnite.

Epic, valued at \$29 billion and based in Cary, N.C., is not seeking monetary damages. The company wants Apple to allow apps like Fortnite to circumvent Apple's payment systems and even offer their own app store within Apple's.

The outcome of the trial will have wide-reaching implications for the broader antitrust push against big tech companies. Apple, Amazon, Facebook and Alphabet, which owns Google, face various antitrust claims by state and federal governments in the United States and Europe. Apple is also battling two potential class-action lawsuits from consumers and developers over its App Store fees.

Fortnite, Mr. Sweeney said, "is a phenomenon that transcends gaming," he said. "Our aim of Fortnite is to build something like a metaverse from science fiction."

Metaverse? A court reporter needed clarification. It's a virtual world for socializing and entertainment, Mr. Sweeney said.

The legal arguments in the case center on the boundaries of the market the two companies are fighting over. Apple's lawyers focused their opening statements on gaming, arguing that people can get access to Fortnite in many places other than the App Store, like gaming consoles.

Epic argues that the case is about the broader app economy and that Apple has a monopoly with its App Store for iPhone users. In particular, Epic is fighting a 30 percent commission that Apple takes on purchases made inside iPhone apps like Fortnite.

In a mostly empty courtroom in Oakland, Katherine Forrest of the law firm Cravath, Swaine & Moore opened Epic's case by previewing a series of emails between Apple's top executives. The emails were evidence, Ms. Forrest argued, that the tech giant purposely created a "walled garden" that locks consumers and developers inside. That forces them to use Apple's payment system, she said.

Once Apple lured users and developers into its walled garden, "the garden gate was closed, the lock turned," Ms. Forrest said. She compared Apple's fees on in-app purchases for subscription services to a car dealership that takes a commission on gas sales.

Apple's lawyers described, in their opening statement, a thriving market for app distribution that includes gaming consoles, desktop computer gaming and the mobile web. Karen Dunn of Paul, Weiss argued that the

30 percent commission was in line with industry standards and that Epic's requests, if granted, would make iPhones less secure, while unlawfully forcing Apple to do business with a competitor.

Ms. Dunn added that Epic's case was a self-serving way to avoid paying fees it owed Apple and was on shaky legal footing. "To win this case, Epic will have to convince this court of so many things that don't make any sense," she concluded.

The first day of the court fight over high-tech competition included in-the-weeds terms like hotfix, sideloading and multiplatform middleware services. But the day began with a familiar experience in the pandemic: Zoom difficulties. The trial's start was delayed by around 40 minutes because of technical issues with the hotlines set up for remote listening.

In another sign of the pandemic's changes to trials, everyone allowed into the mostly empty room wore a mask or face shield. The judge's bench was surrounded by plexiglass dividers.

"It's been an adventure -- not even the year, but this case," said Judge Yvonne Gonzales Rogers, who will decide the case.

App developers have privately grumbled over the years about Apple's tight grip on its App Store and the secretive ways it enforces its rules. But few have dared to speak publicly about it, much less mount a legal challenge. Alongside its lawsuit, Epic created a nonprofit coalition to make the case for "fairness" from app platforms like Apple's and Google's, Apple's lawyers testified on Monday; several dozen smaller companies have joined.

Mr. Sweeney has been vocal about his distaste for the app stores' control over access to apps and its impact on his metaverse vision. Apple's level of control, he said in an interview last year, is "completely unprecedented in human history."

But Mr. Sweeney was so soft-spoken in his testimony on Monday, a court reporter had to repeatedly ask for clarification on gaming and technology terms. He wore a suit, ditching his usual, T-shirt and cargo shorts. He also wore a clear face shield.

In his testimony, Mr. Sweeney explained Epic's decision to pursue the lawsuit. "I wanted to show the world through actions exactly what the ramifications of Apple's policy were," he said.

In a cross-examination, Richard Doren of Gibson, Dunn & Crutcher hammered at Mr. Sweeney with a rapid series of yes-or-no questions to make the point that Epic also publishes Fortnite on other platforms, like gaming consoles -- and that Epic is not complaining about them.

But Mr. Sweeney countered that the gaming consoles, which typically lose money on the hardware they sell and make it up on fees, have different business models from Apple's and Google's app stores, which are highly profitable.

Mr. Doren asked Mr. Sweeney if he knew that the actions Epic took last summer would cause Apple to kick his company's app out of the App Store. He suggested that Mr. Sweeney had hoped Apple would cave in to the pressure because of Fortnite's popularity.

"I hoped Apple would seriously reconsider its policy then and there," Mr. Sweeney said. Apple did not, and Epic sued.

In the coming weeks, top Apple executives, including the chief executive, Tim Cook, and executives from Microsoft and Match Group are expected to testify.

The legal team for Epic Games wheeled documents into court in Oakland, Calif., for the battle with Apple. (PHOTOGRAPH BY JIM WILSON/THE NEW YORK TIMES) (B4)

Document NYTF000020210505eh540000g

Extras, IndyBest, Tech, Laptops & Tablets
10 best tablets for drawing, gaming and films

David Phelan
3,417 words
4 May 2021
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English

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Whether you want a substitute for your laptop or a portable device, these devices have come along way since **Apple's** breakthrough product

The launch of the iPad in 2010 changed everything, as **Apple** is fond of saying. Sure, there had been tablet computers before then, but they were really just laptops with a touchscreen interface, a not-very-easy version of Windows to run it, and not much that was optimised for touch.

The iPad provided a slim, light, gorgeous screen that introduced a whole new way of interacting with content, from typing emails to watching videos to playing games.

Apple's tablets have been the benchmark ever since, with rivals struggling to be as intuitive, as inviting and as intimately personal as the iPad. The iPad is now available in four versions: iPad, the lightweight iPad Air, the smaller-screened iPad mini and the powerhouse iPad Pro.

Other companies have focused on different screen technologies (like Samsung), on creating fully-fledged Windows tablets (Microsoft Surface) or delivering a super-affordable alternative (Amazon Fire tablets).

Apple's tablets have more than a million apps designed for the large screen, Samsung uses Android, Amazon prefers a special bespoke version of Android which has far fewer apps – but they're all tested to work perfectly.

Read more:

- * [10 best kids' tablets for learning and playing games](#)
- * [10 best high-end laptops for great performance with sleek design](#)
- * [Apple AirPods Max vs Sony WH-1000XM4 review](#)

Don't mistake Amazon's affordability for being cheap: Fire tablets are well-crafted and capable, though they lack the aluminium casing that makes the iPad so attractive, and durable.

Many tablets now come with optional extras such as keyboard cases which turn a tablet into a decent laptop alternative. We tested for battery life, speed of processor, simplicity of operation, breadth of apps and elegance of design.

You can trust our independent reviews. We may earn commission from some of the retailers, but we never allow this to influence selections, which are formed from real-world testing and expert advice. This revenue helps us to fund journalism across The Independent.

The best tablets for 2021:

- * Best overall – Apple iPad air: £578.32, [Johnlewis.com](#)
- * Best for reading – Amazon fire HD 8 plus: £109, [AO.com](#)
- * Best Huawei tablet –Huawei matepad pro: £379.97, [Amazon.co.uk](#)
- * Best for drawing –Apple iPad pro: From £639.99, [Amazon.co.uk](#)
- * Best android tablet –Samsung galaxy tab S7+: From £639.20, [Samsung.com](#)
- * Best for productivity –Microsoft surface go 2: £390.32, [Amazon.co.uk](#)

* Best Amazon tablet –Amazon fire HD 10: £94.99, [Amazon.co.uk](https://www.amazon.co.uk)

* Cheapest iPad –Apple iPad: £329, [Argos.co.uk](https://www.argos.co.uk)

* Best budget tablet –Amazon fire 7: £49, [AO.com](https://www.amazon.co.uk)

* Best Windows tablet – Microsoft surface pro 7: £790.63, [Amazon.co.uk](https://www.amazon.co.uk)

Apple iPad air

Best: Overall

Operating system: Apple iPadOS 14

Screen size: 10.9in

Screen resolution: 264 pixels per inch

Storage capacity: 64GB, 256GB

Wifi or wifi and 4G? Both available

Colour choices: Space grey, silver, rose gold, green, sky blue

Dimensions: 247.6 x 178.5 x 6.1 mm

Weight: 460g

Expandable storage: No

Battery life: 10 hours

The new iPad air was released in September and it looks tremendous, like the much pricier iPad pro. It also has the most advanced processor Apple has installed in a tablet, the A14 Bionic which is also found in the iPhone 12 pro. Unlike the iPad pro, the iPad air comes in five cute colours: space grey, silver, green, rose gold and sky blue, all of which look great. Since the front is all glass, you only see the colours in the anodised aluminium that forms the back and edge, and which gives the iPad its premium build quality. And the latest iPad air has a bigger screen than many previous tablets: 10.9in.

This new iPad air introduced an all-new feature: the touch ID fingerprint sensor to unlock the screen and authorise payments is no longer on the front of the tablet, taking up space south of the screen. No, it's now mounted in the power button on the top edge. This simple move is transformational and makes this the most intriguing iPad yet. It has also switched from the lightning socket which charges most iPads and all iPhones, to the more common USB-C. This means it's simple to find the right cable and it can output what's on screens to other displays easily. The flat edge design also means the useful Apple pencil stylus (an optional extra) is the more advanced, second-generation version which clips magnetically to the side of the iPad air and charges wirelessly from it.

It's also compatible with the new magic keyboard accessory which offers a backlit keyboard with highly comfortable keys and a useful trackpad. With this in place, the air becomes a decent laptop substitute. Like all iPads, it's available both in wifi-only or wifi plus 4G versions. For the latter, you install a sim card and can connect to the internet wherever there's a mobile network signal.

[Buy now](https://www.amazon.co.uk) £578.32, Amazon.co.uk

Amazon fire HD 8 plus

Best: For reading

Operating system: Amazon Fire OS

Screen size: 8in

Screen resolution: 189 pixels per inch

Storage capacity: 32GB, 64GB

Wifi or wifi and 4G? Wifi

Colour choices: Black

Dimensions: 202 x 137 x 9.7mm

Weight: 355g

Expandable storage: Yes

Battery life: 12 hours

Amazon makes a range of keenly priced tablets, much more affordable than rivals. That doesn't mean the tablets aren't well-made or have a high spec. Though the all-plastic casing is no match for the elegance of the iPad, Fire tablets are solid and powerful. This model with an 8in display was updated most recently, with a significantly-improved processor so it's especially fast and effective. Although Amazon uses the Android operating system, it has a special version which offers far fewer than other Android devices, but they are all tested to ensure they're reliable. You can even charge this tablet wirelessly and Amazon makes a compatible dock to do this. Amazon's devices work with each other well, so if you have books on a Kindle, say, they will appear on this tablet.

[Buy now](#) £109.99, AO.com

Huawei matepad pro

Best: Tablet under £500

Operating system: Android, Huawei EMUI

Screen size: 10.8in

Screen resolution: 280 pixels per inch

Storage capacity: 128GB

Wifi or wifi and 4G? Wifi

Colour choices: Midnight grey

Dimensions: 246 x 159 x 7.2mm

Weight: 460g

Expandable storage: Yes

Battery life: 14 hours

Huawei's latest tablet has a lot in common with the high-end Apple iPad pro, with facial recognition used to unlock the display, for instance. It's a powerful and capable tablet, and noticeably cheaper than Apple's pro model. It's light and slim, and highly enjoyable to use. Although this is an Android tablet, because of issues between the US government and China, Huawei does not use full Google Mobile services. These include Gmail, Google Maps and the Google Play Store. This means there are far fewer apps available, though the store that is on board, called Huawei App Gallery, is growing fast. It has its own email app, for example, and its own mapping is done in conjunction with TomTom. Some missing apps like Netflix and Gmail can also be run via the tablet's browser. Like the Amazon Fire HD8 plus, this tablet is wireless-chargeable and has an extra feature: reverse wireless charging so you can charge your phone or other compatible gadget tablets by placing it on the back of the MatePad Pro.

[Buy now](#) £379.97, Amazon.co.uk

Apple iPad pro

Best: For drawing

Operating system: Apple iPadOS 14

Screen size: 11in, 12.9in

Screen resolution: 264 pixels per inch

Storage capacity: 128GB, 256GB, 512GB, 1TB

Wifi or wifi and 4G? Both available

Colour choices: Space Grey, Silver

Dimensions 11in: 247.6 x 178.5 x 5.9mm, 12.9in: 280.6 x 214.9 x 5.9mm

Weight 11in: 471g, 12.9in: 641g

Expandable storage: No

Battery life: 10 hours

The iPad pro was the first iPad to gain the flat-edged design that the iPad air now shares. The screen covers even more of the front of the tablet than on the iPad air, thanks to a narrower bezel. But where the iPad air has touch ID in the power button, this uses the TrueDepth sensors found on recent iPhones so you can unlock the display just by looking at it. The iPad pro is incredibly fast, though the more recent iPad air is no slouch, either. As Apple is fond of pointing out, the iPad pro is more powerful than many high-end laptops. With optional accessories like the magic keyboard and Apple pencil (version 2), the iPad pro also works well as a full-blown computer. The iPad pro comes in two sizes: the 11in display model is the same size as the iPad air, though fractionally thinner from front to back. On the other hand, the 12.9in screen version is the ultimate tablet.

[Buy now](#) £639.99, Amazon.co.uk

Samsung galaxy tab S7+

Best: Android tablet

Operating system: Android

Screen size: 12.4in

Screen resolution: 266 pixels per inch

Storage capacity: 128GB, 256GB, 512GB

Wifi or wifi and 4G? Both available, plus 5G option

Colour choices: Mystic Black, Mystic Bronze, Mystic Silver

Dimensions: 285 x 185.3 x 5.7 mm

Weight: 575g

Expandable storage: Yes

Battery life: 13 hours

Samsung's tablet looks glorious, with a pin-sharp OLED display that is easily the best screen on any Android tablet and a fast processor which is highly responsive. The tablet bears a passing resemblance to the iPad pro or iPad air, with its flat edges, rounded corners and a stylus which attaches to the tablet magnetically. The Samsung S pen is bundled with the tablet, though, unlike Apple's optional pencil. Here, it clips to the rear of the tablet which is not quite as secure a storage place as the pencil which clings to the iPad air's side. Still, there's an optional rear cover which protects the metal back of the tablet and holds the S pen safely. This cover also has a kickstand so you can position the tablet perfectly for watching a movie, for instance. The design is light and thin – the thinnest tablet of any brand at 5.7mm, a little thinner than the iPad pro. The bezel is thin and unlocking happens through a fingerprint sensor which is buried in the display itself. Although the range of apps skilfully optimised for a tablet are far fewer than the iPad boasts, this tablet makes them look and perform their best.

[Buy now](#) £639.20, Samsung.com

Microsoft surface go 2

Best: For productivity

Operating system: Windows 10

Screen size: 10.5in

Screen resolution: 220 pixels per inch

Storage capacity: 64GB, 128GB

Wifi or wifi and 4G? Both available

Colour choices: Black

Dimensions: 245 x 175 x 8.3 mm

Weight: 544g

Expandable storage: Yes

Battery life: 10 hours

Microsoft's surface tablets also double up as laptops if you add the TypeCover, a sturdy keyboard that fits to the front of the tablet which is separately available. This is the smallest surface, with a 10.5in display. Even so, it runs a full version of Windows, so has access to a huge range of programs and apps. It comes in what's called S Mode, meaning it only works with apps available in the Microsoft Store. If you want other programs, you can choose to switch out of S Mode. It's free to do this but it is a one-way switch. Surface tablets have a distinctive style which includes a built-in kickstand so you can use the tablet in a variety of positions. Surface tablets stand out for great build quality.

[Buy now](#) £390.32, Amazon.co.uk

Amazon fire HD 10

Best: Amazon tablet

Operating system: Amazon Fire OS

Screen size: 10in

Screen resolution: 224 pixels per inch

Storage capacity: 32GB, 64GB

Wifi or wifi and 4G? Wifi only

Colour choices: Black, Plum, Twilight Blue, White

Dimensions: 262 x 159 x 9.8mm

Weight: 504g

Expandable storage: Yes

Battery life: 12 hours

The fire HD 10 tablet has a 10in display which makes it easily the biggest of any Amazon tablet and the highest-resolution, which make it the best Amazon tablet for video playback. It's a sleek and effective machine, with plenty of power and strong battery life. Like all the Amazon tablets, it comes in two versions, with or without advertisements. These appear on the lock screen only and are seen when you wake it up. You can get rid of the ads at any time by paying £10. Easily the best-value full-size tablet though the limited range of Android apps may put some off – though there are still over half a million to choose from.

[Buy now](#) £94.99, Amazon.co.uk

Apple iPad

Best: Budget iPad

Operating system: Apple iPadOS 14

Screen size: 10.2in

Screen resolution: 264 pixels per inch

Storage capacity: 32GB, 128GB

Wifi or wifi and 4G? Both available

Colour choices: Space Grey, Silver, Gold

Dimensions: 250.6 x 174.1 x 7.5mm

Weight: 483g

Expandable storage: No

Battery life: 10 hours

Even though this is the cheapest iPad, there's nothing basic about it and it has access to the same massive range of apps and the same sublimely simple operating system which can work pretty much like a regular laptop – and has the same keyboard and pencil options as pricier iPad models. The display is 10.2in, an increase to the 9.7in screen on most previous iPads, mostly achieved through slimming the frame around the display's long edges. The design was also refined to make the iPad slimmer and lighter. The touch ID button sits below the screen, so there are bigger gaps at the top and bottom of the tablet. This iPad is very fast – it gained a speed increase just a few months ago – and for most people it will be more than enough.

[Buy now](#) £329.00, Argos.co.uk

Amazon fire 7

Best: Budget tablet

Operating system: Amazon Fire OS

Screen size: 7in

Screen resolution: 171 pixels per inch

Storage capacity: 16GB, 32GB

Wifi or wifi and 4G? Wifi

Colour choices: Black, plum, sage, twilight blue

Dimensions: 192 x 115 x 9.6mm

Weight: 286g

Expandable storage: Yes

Battery life: 7 hours

If you want to pay as little as possible for a tablet, but still want the assurance and reliability that comes with a big name, Amazon's 7in tablet is fantastic. Effortlessly portable, the screen is fine, though not a patch on rivals here. Purchases such as Amazon movies, Kindle books and Audible audiobooks are automatically available and the tablet works well with Amazon Prime Video, for instance. Storage is less than on many rivals but enough for most users. The price is the real standout here.

[Buy now](#) £49.99, AO.com

Microsoft surface pro 7

Best: Windows tablet

Operating system: Windows 10

Screen size: 12.3in

Screen resolution: 267 pixels per inch

Storage capacity: 128, 256, 512 GB, 1TB

Wifi or wifi and 4G? Wifi

Colour choices: Platinum, black

Dimensions: 292 x 201 x 8.5 mm

Weight: 775g

Expandable storage: Yes

Battery life: 10.5 hours

Where the surface go 2 is small and super-portable, this top-end Surface has a bigger display and can be configured with lots of storage and a much faster processor. You can also configure the RAM which helps the tablet run faster – this is something you can't adjust with the iPad, for instance. The addition of a type cover (£149.99) and surface pen (£99.99) bumps up the cost but adds real versatility. The surface range often offers comprehensive connectivity, and there are USB-A and USB-C sockets here. The 12.3in screen is bright and inviting. The trademark kickstand helps with the surface pro 7's versatility, too.

[Buy now](#) £790.63, [Amazon.co.uk](#)

Tablet FAQs

What is a tablet?

A tablet is a small, portable computing device that has a touch screen interface and is designed to be held in one or two hands. A tablet lets you do many of the same things you'd do on your computer or laptop, such as browse the Internet, use social media apps, emails and video calls. Much like your mobile, a tablet can have apps installed on it and you can watch videos. They provide a convenient way of accessing content on-the-go.

How to connect a tablet to a TV

Connecting your tablet to your TV differs per device. If it's an Android tablet you can use a mini HDMI cable (£6.49, [Amazon.co.uk](#)) and mirror the content onto your television screen. As for an Apple device, this process is similar, except you'll need a lightning cable (£49, [Apple.com](#)). If you have Apple TV (£149, [Apple.com](#)), you can use [screen mirroring](#) and use your television as the playback destination.

Android vs. Apple iPad tablets

The biggest difference between these tablets is the fact they have different operating systems. Apple's iPad runs on iOS, while Android tablets, such as Samsung, run on Google's Android. Often those who have an iPhone will find an iPad's interface more familiar and vice versa.

Apple currently only has four different iPad devices on offer, iPad, iPad Pro, iPad Air and iPad mini, whereas, with Android, there's far more to choose from, including Amazon tablets.

As for software, we think Apple iPads pip Android since they tend to be more stable and easier to use – Apple approves each app in the App Store, while Android's Google Play has a lack of supervision in comparison. Similarly, while Android has made strides with its devices, Apple's remain easier to use owing to their simplicity.

What size tablet do you need?

The size of the tablet you buy is very much down to personal preference and depends on what you want your tablet for. For example, you may choose to opt for something smaller if the main purpose for the device is for entertainment while travelling, while if it's for more extended use and work purpose, a larger device will be better suited.

On one end of the size scale, you have a 7in tablet, which is the smallest you can buy and often the cheapest – it's an ideal choice if you want to be able to hold it in your hand and use it for reading. Some devices are 8in, such as the iPad mini, which you can still hold in one hand, but tend to be a little heavier.

If you're looking for something a little larger, we'd suggest reaching for a device that is somewhere between 9in and 11in, there are plenty of tablets within this range and cater for different budgets. For example, the Fire 10 retails at £149.99, while the iPad Air is a more costly purchase at £749. These larger tablets are more suitable for use over extended periods of time, for example for work purposes, making them a great alternative to a laptop or computer.

As for those larger again, some tablets measure more than 11in and are again ideal for work when you can connect them to keyboards.

The verdict: Tablets

The [new iPad air](#) is a stunning success and is the perfect storm of power, gorgeous design and value. The [Samsung galaxy tab S7+](#) is easily the best Android tablet yet while the keenest prices are to be found in Amazon's series, with the [fire HD 8](#) plus the best of its range.

More tech recommendations:

- * [How to choose the best smartphone for you](#)
- * [10 best kids' tablets that to do it all](#)
- * [10 best high-end laptops for great performance](#)
- * [8 best laptops for students](#)
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The New York Times

Business

Apple and Epic Trial Opens With a Tour of the Fortnite 'Metaverse'

By Erin Griffith

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Epic has accused **Apple** of unfairly using its App Store's power to take a cut of the money made in Fortnite, a popular online game.

OAKLAND, Calif. — Cosmetics. Digital dances called “emotes” A currency called V-Bucks. Virtual concerts. Fortnite, the popular **gaming** platform, is more than just a game. It is a “metaverse,” full of virtual life, said Tim Sweeney, chief executive of [Epic Games](#), the company that created [Fortnite](#).

And [Apple](#), he argued in federal court on Monday, [wants an unfair cut](#) of the money to be made in the Fortnite metaverse.

Mr. Sweeney offered a granular explanation of Fortnite to paint an expansive portrait of his company's world on the first day of what is expected to be a three-week trial, pitting [Epic against Apple](#) in a fight over Apple's App Store fees and other rules that could reshape the \$100 billion app economy.

Epic [sued Apple in August](#), arguing that Apple is unfairly leaning on its control of the App Store to extract an unfair cut of the money Epic makes from selling digital goods inside Fortnite.

Epic, valued at \$29 billion and based in Cary, N.C., is not seeking monetary damages. The company wants Apple to allow apps like Fortnite to circumvent Apple's payment systems and even offer their own app store within Apple's.

The outcome of the trial will have wide-reaching implications for the broader antitrust push against big tech companies. Apple, Amazon, Facebook and Alphabet, which owns Google, face various [antitrust claims by state and federal governments](#) in the United States and Europe. Apple is also [battling two potential class-action lawsuits](#) from consumers and developers over its App Store fees.

Fortnite, Mr. Sweeney said, “is a phenomenon that transcends gaming,” he said. “Our aim of Fortnite is to build something like a metaverse from science fiction.”

Metaverse? A court reporter needed clarification. It's a virtual world for socializing and entertainment, Mr. Sweeney said.

The legal arguments in the case center on the boundaries of the market the two companies are fighting over. Apple's lawyers focused their opening statements on gaming, arguing that people can get access to Fortnite in many places other than the App Store, like gaming consoles.

Epic argues that the case is about the broader app economy and that Apple has a monopoly with its App Store for iPhone users. In particular, Epic is fighting a 30 percent commission that Apple takes on purchases made inside iPhone apps like Fortnite.

In a mostly empty courtroom in Oakland, Katherine Forrest of the law firm Cravath, Swaine & Moore opened Epic's case by previewing a series of emails between Apple's top executives. The emails were evidence, Ms. Forrest argued, that the tech giant purposely created a “walled garden” that locks consumers and developers inside. That forces them to use Apple's payment system, she said.

Once Apple lured users and developers into its walled garden, “the garden gate was closed, the lock turned,” Ms. Forrest said. She compared Apple's fees on in-app purchases for subscription services to a car dealership that takes a commission on gas sales.

Apple's lawyers described, in their opening statement, a thriving market for app distribution that includes gaming consoles, desktop computer gaming and the mobile web. Karen Dunn of Paul, Weiss argued that the

30 percent commission was in line with industry standards and that Epic's requests, if granted, would make iPhones less secure, while unlawfully forcing Apple to do business with a competitor.

Ms. Dunn added that Epic's case was a self-serving way to avoid paying fees it owed Apple and was on shaky legal footing. "To win this case, Epic will have to convince this court of so many things that don't make any sense," she concluded.

The first day of the court fight over high-tech competition included in-the-weeds terms like hotfix, sideloading and multiplatform middleware services. But the day began with a familiar experience in the pandemic: Zoom difficulties. The trial's start was delayed by around 40 minutes because of technical issues with the hotlines set up for remote listening.

In another sign of the pandemic's changes to trials, everyone allowed into the mostly empty room wore a mask or face shield. The judge's bench was surrounded by plexiglass dividers.

"It's been an adventure — not even the year, but this case," said Judge Yvonne Gonzales Rogers, who will decide the case.

App developers have privately grumbled over the years about Apple's tight grip on its App Store and the secretive ways it enforces its rules. But few have dared to speak publicly about it, much less mount a legal challenge. Alongside its lawsuit, Epic created a nonprofit coalition to make the case for "fairness" from app platforms like Apple's and Google's, Apple's lawyers testified on Monday; several dozen smaller companies have joined.

Mr. Sweeney has been vocal about his distaste for the app stores' control over access to apps and its impact on his metaverse vision. Apple's level of control, he said in [an interview last year](#), is "completely unprecedented in human history."

But Mr. Sweeney was so soft-spoken in his testimony on Monday, a court reporter had to repeatedly ask for clarification on gaming and technology terms. He wore a suit, ditching his usual, T-shirt and cargo shorts. He also wore a clear face shield.

In his testimony, Mr. Sweeney explained Epic's decision to pursue the lawsuit. "I wanted to show the world through actions exactly what the ramifications of Apple's policy were," he said.

In a cross-examination, Richard Doren of Gibson, Dunn & Crutcher hammered at Mr. Sweeney with a rapid series of yes-or-no questions to make the point that Epic also publishes Fortnite on other platforms, like gaming consoles — and that Epic is not complaining about them.

But Mr. Sweeney countered that the gaming consoles, which typically lose money on the hardware they sell and make it up on fees, have different business models from Apple's and Google's app stores, which are highly profitable.

Mr. Doren asked Mr. Sweeney if he knew that the actions Epic took last summer would cause Apple to kick his company's app out of the App Store. He suggested that Mr. Sweeney had hoped Apple would cave in to the pressure because of Fortnite's popularity.

"I hoped Apple would seriously reconsider its policy then and there," Mr. Sweeney said. Apple did not, and Epic sued.

In the coming weeks, top Apple executives, including the chief executive, Tim Cook, and executives from Microsoft and Match Group are expected to testify.

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Search Summary

Text	hlp=apple and wc>500 and hlp=(virtual real estate or virtual properties or digital real estate or digital real assets or digital properties or metaverse properties or digital plots or virtual plots or virtual land or virtual reality platform or manufacturing simulation or virtual simulation or digital twins or virtual manufacturing or immersive learning or mixed-reality learning or metaverse learning or VR learning or AR learning or VR training or virtual recruitment or 3d training or training metaverse or virtual retail or virtual shopping or virtual clienteling or omnichannel shopping or humanising digital retail or immersive virtual stores or 3d virtual store or metaverse shopping or virtual clothing or virtual goods or gaming or digital avatar or digital character or virtual game or 3D avatars or virtual reality or interoperable VR space or digital financial ecosystems or metaverse wallets or robo advisory or virtual financial data or digital
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