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A common myth about technology is that it constantly, magically, gets better over time. It does not. It takes smart engineers, cutting-edge facilities and most importantly, investment – real capital from real companies – many of which are betting their future on the commercial success of their inventions.

The first virtual reality (VR) headset was created in 1968 by Ivan Sutherland.¹ The term ‘metaverse’ first appeared in a novel by Neal Stephenson in 1992.² And blockchain technology (now used to create assets like Bitcoin) was first proposed by cryptographer David Chaum in 1982.³ These three are often ideated as the future of the internet, but in fact, conceptually at least, they are old technologies.

All three are arguably yet to hit mainstream adoption, even if they have achieved mass media coverage. Whenever a wave of hype emerges for one of them – particularly virtual reality, which saw its previous wave in 2016 – a lack of mainstream adoption is often excused with the explanation that its ‘technology is not quite ready yet’.⁴ In other words, with technical improvements, the mass market would buy and use these products in earnest.

Deloitte surveyed 4,160 consumers in the UK about their ownership of virtual reality headsets, their attitudes to web3, and their knowledge of the metaverse. The barriers to growth for these, it turns out, are not technical limitations related to computing, network or user interfaces. Instead, what these technologies lack, in the mind of many consumers, is a clear purpose. This challenge will not be solved with better displays and faster chips.

Content is crucial if virtual reality is to be a success

Virtual reality is experienced via a head-mounted display which encloses a user's vision to 'immerse' them in content. That content may be video or a digital environment of rendered textures like a video game. In 2021, 11.2 million VR headsets were sold worldwide, according to IDC.⁵

In the UK, 8% of people claim to have access to a VR headset (see Figure 1). This is the same proportion as in 2021. VR adoption and daily usage have increased over the years, but at a very slow rate. The notable exception to this is 2019, which saw a spike in access and daily usage. Beat Saber, still the most popular game on some VR platforms, launched in 2019, and sold over a million copies by March of that year.⁶ This is probably not a coincidence.

Which, if any, of the following devices do you own or have ready access to? When was the last time you used each device? Was it within the...? [last day]

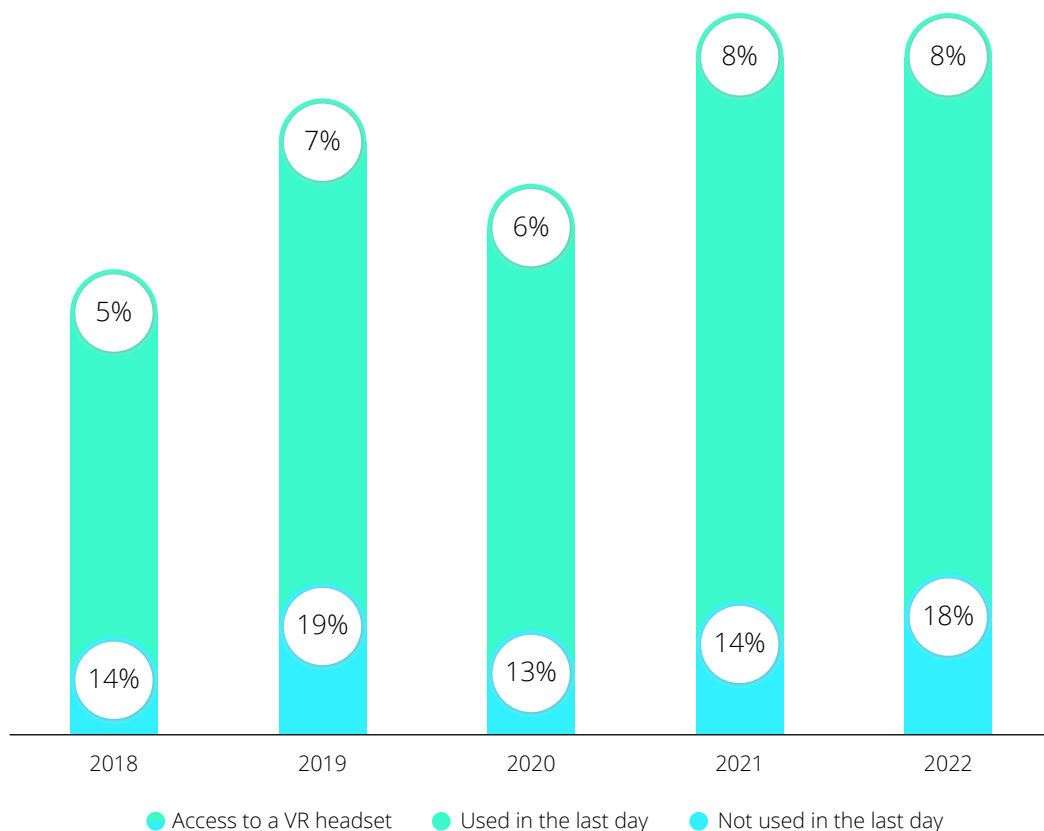


Figure 1. Access to a VR headset stalls, but daily usage nudges upwards

Weighted base: All respondents aged 16-75 in 2022 (4,161), who have access to a virtual reality headset (350)

Source: Deloitte Digital Consumer Trends, UK, Apr-May 2022

In contrast, smartphone access is 92% and daily usage is 91%, and laptop access is 78% with daily usage of 64%. Virtual reality headsets remain a long way from ubiquity.

Consumers without a headset (92%) have a strong consensus as to why. Four in ten of them simply claim that they are not interested in VR (see Figure 2). Budget is a key consideration for others, with a quarter (25%) claiming headsets are too expensive, and a fifth (20%) claiming that they would rather spend money on other devices. For the latter, a key theme seems to be a preference to use other devices for the same activities. It may be that for socialising, people prefer a smartphone; for gaming they prefer a console and for work they prefer a PC. Around one in ten (9%) prefer other devices for online activities and almost a fifth (19%) prefer to interact with people in the real world.

Again, this comes back to purpose. Virtual reality is often posited as a future intrinsic technology – a jack of all trades. But in reality, it probably needs to start by complementing, not replacing, the great technologies that people already use.

Which of these reasons best describe why you do not own a Virtual Reality headset?

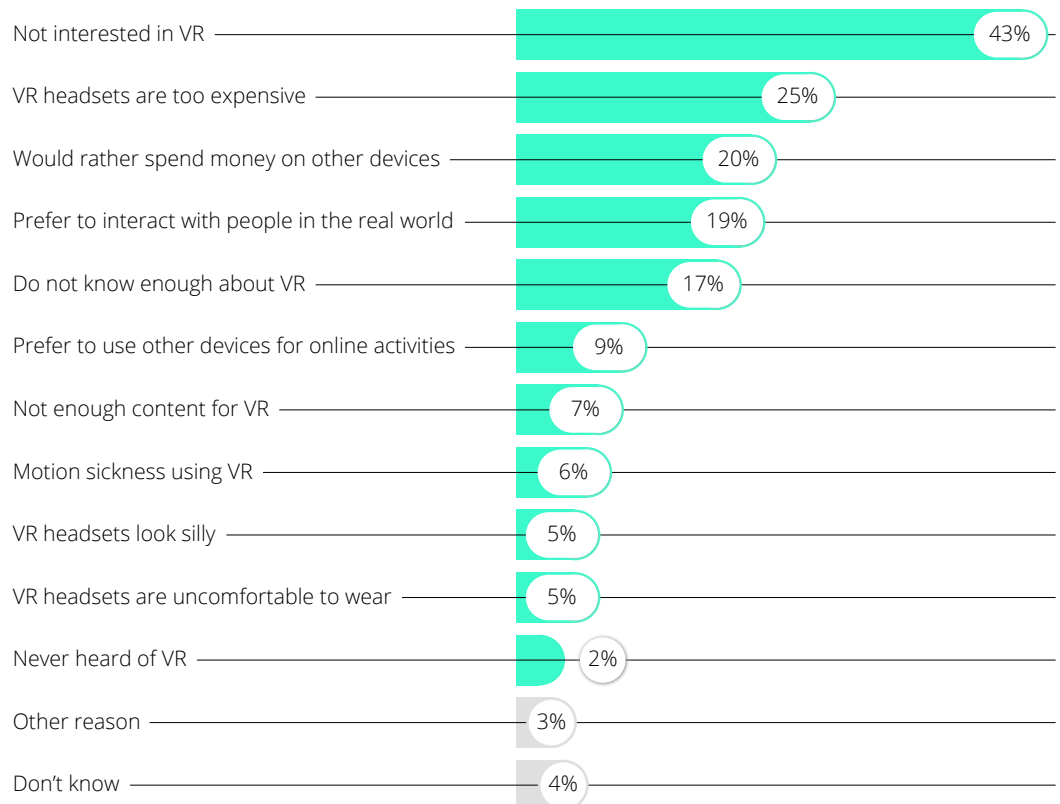


Figure 2. Most people who do not have VR, simply aren't interested

Weighted base: All respondents who do not have access to a virtual reality headset and aged 16-75 in 2022 (3,811)

Source: Deloitte Digital Consumer Trends, UK, Apr-May 2022

For VR to become mainstream, frequency of use is crucial. Of those with a virtual reality headset, more than half (51%) had not used it in the last month. In this group, almost half claim they have not had time (47%, as shown in Figure 3). In other words, they have not *made* time. VR seems to be regarded like a games console – a luxury device to be used in free time, not an intrinsic part of everyday productivity and consumption. A subset of people may also have been put off by bad experiences in the past: 19% claim to have motion sickness, 8% claim headsets are uncomfortable, and 2% think they look silly. And inactive VR owners also bemoan a lack of content: 15% say there is not enough, and 11% are bored with the content that exists.

To be successful, VR clearly needs a catalogue of compelling, repeatable experiences. It also probably needs a network effect, with rich social experiences that encourage friends and colleagues to adopt headsets, as utility increases along with the size of the user base. Software developers, however, may not yet see enough potential for return on investment to create, iterate, and support content over time.

Which of these reasons best describe why you have not used your Virtual Reality headset in the past month?

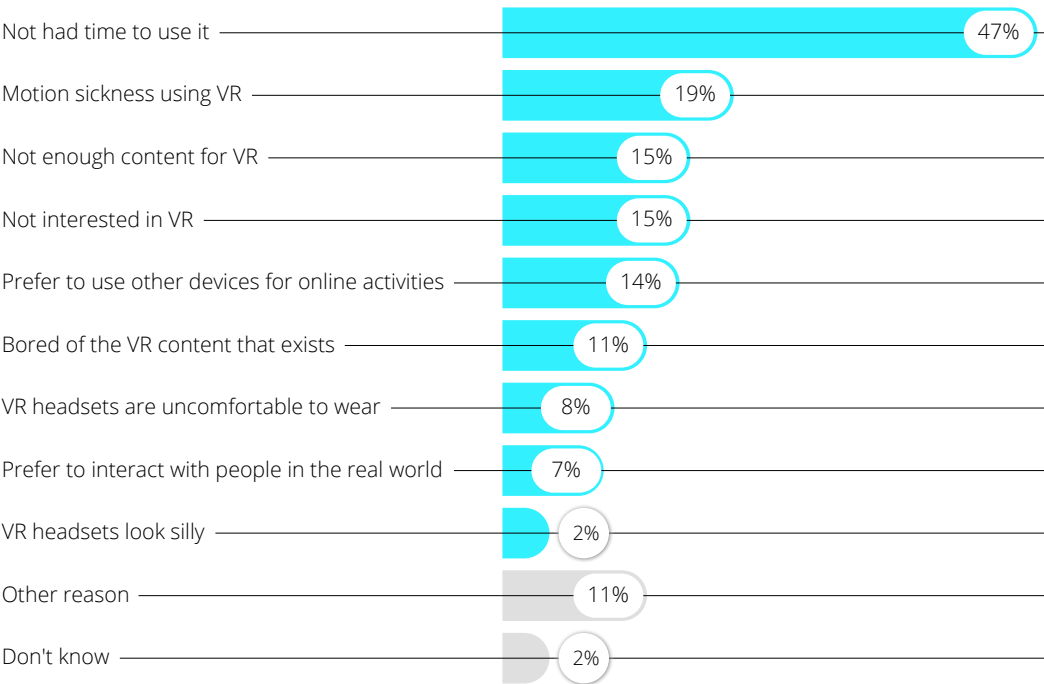


Figure 3. Inactive VR owners bemoan a lack of content

Weighted base: All respondents who have access to a virtual reality headset but did not use it in the last month and aged 16-75 in 2022 (113)

Source: Deloitte Digital Consumer Trends, UK, Apr-May 2022

The metaverse will not wait for virtual reality to catch up

One thing is certain: the metaverse is ambiguous. Companies tend to define it in a way that inflates the importance of their own strengths and, therefore, several definitions exist. Indeed, a service provider might define it as the next big cloud platform; a productivity company might see it as the future of work; a gaming company might envisage the next generation of play. Generally speaking, however, a metaverse is a rendered digital world in which a person can control an avatar and interact with the avatars of others.

In the three decades since the term was coined, it has mostly been a niche, unknown concept. But the concept of a metaverse has been thrust into mainstream media in the past year.

How familiar are you with the concept of the metaverse?

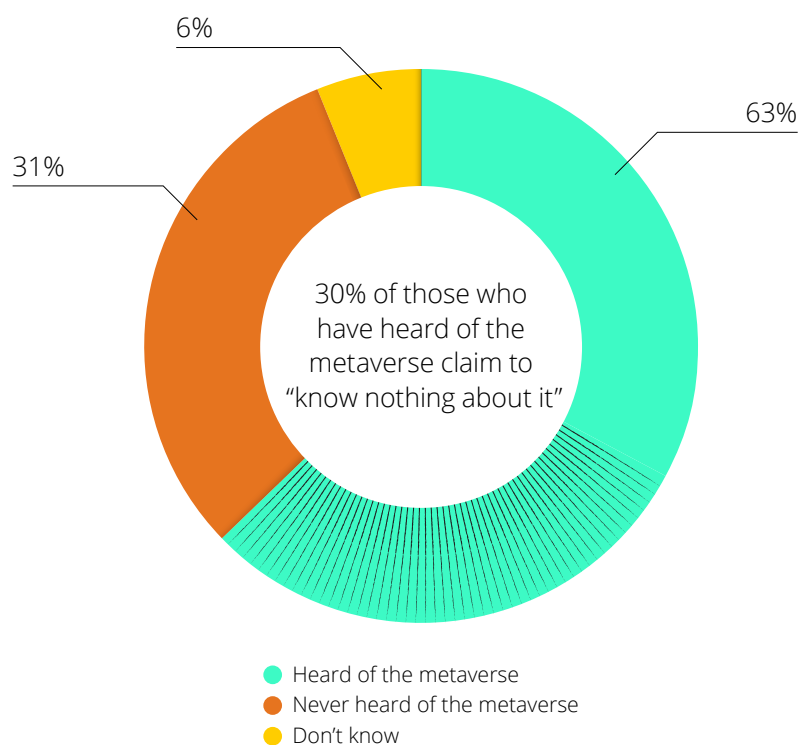


Figure 4. Almost two thirds of people have heard of the metaverse

Weighted base: All respondents aged 16-75, (half sample – sample B) aged 16-75 in 2022 (2,078)

Source: Deloitte Digital Consumer Trends, UK, Apr-May 2022

Almost two-thirds of people have heard of the metaverse (63%, as shown in Figure 4). But of those nearly half know nothing about it. It may have been prominent in the media, but many people may not have read about it in detail. Familiarity with the metaverse is also skewed by demographic. Men are 27% more likely than women to have heard of the metaverse, and people with household income above £75,000 are 32% more likely to have heard of it than those below £30,000. This skew toward males and wealth suggests that the concept of the 'metaverse' is yet to effectively reach people outside of the bubble of the tech industry, which itself skews in this way.

The metaverse (or rather some metaverses), unlike virtual reality, have seen fast adoption by certain groups. For example, the online game Roblox – which **could** be considered a metaverse depending on your definition – attracts more than 50 million daily active users.⁷ People are willing to gather, socialise, play and spend money in virtual worlds, even if they are using flat-screened devices to do so. Clearly, the metaverse is not dependent on virtual reality headsets, nor will it wait for them to catch up.

'One metaverse' would require web3, but if it lacks a purpose, siloed metaverses will prevail in the near-term

Web3, an umbrella term for blockchain-based assets like cryptocurrency and non-fungible tokens (NFTs), is often cited as crucial to the future of the metaverse.⁸ In theory, using a blockchain ledger as a certificate of authenticity, instead of one company or platform having that right, would allow digital assets to transcend different metaverse siloes. For example, a set of rare digital sneakers bought in one metaverse, if recorded as an NFT, could move between virtual worlds, with blockchain as the bridge.

Consumers are still hesitant on web3, however. Only one in five (19%) know at least a "fair amount" about cryptocurrency, and one in ten (11%) know at least a "fair amount" about NFTs (see Figure 5). Of people who have heard of these assets, 70% claim they are unlikely to own them in the next year, with 59% being concerned about scams and 52% concerned about the lack of regulation. Therein lies one big challenge for web3: whenever it makes headlines, it is often for the wrong reasons.

Before today, how much, if anything, did you know about the following?

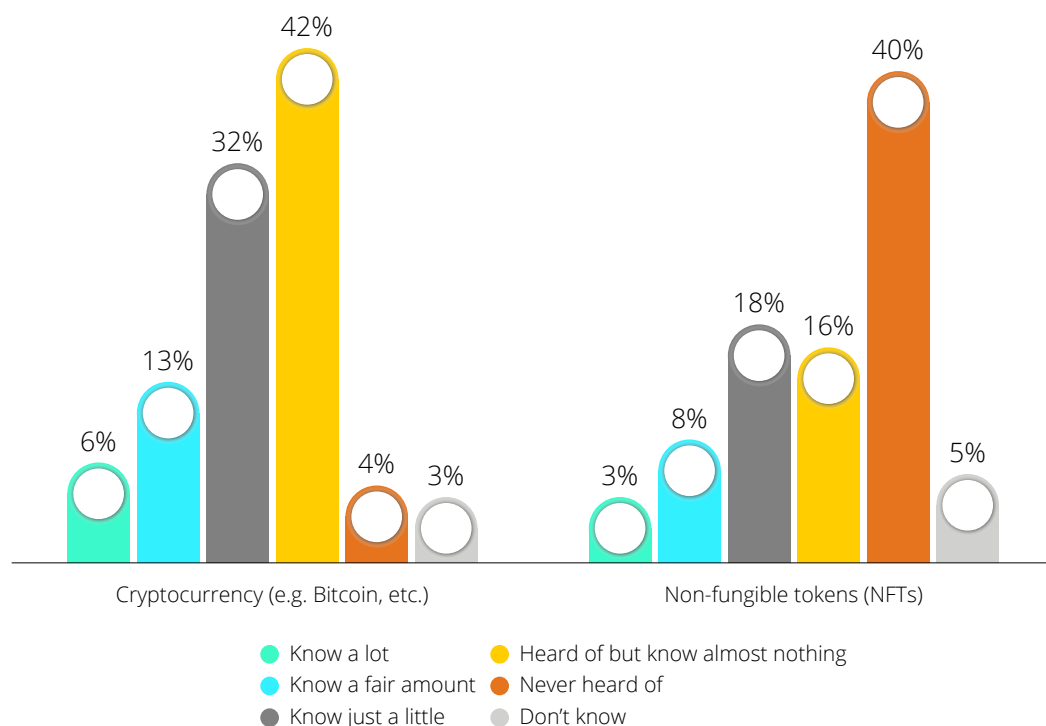


Figure 5. Almost half of people have not heard of an NFT

Weighted base: All respondents aged 16-75 in 2022 (4,161)

Source: Deloitte Digital Consumer Trends, UK, Apr-May 2022

For any of this to matter, assets which transfer between metaverses need to have utility in more than one place. If all of the equipment, trophies, badges, clothing and certificates from one metaverse are effectively meaningless outside of that bubble, then there is no need for the bridge to exist. Hypothetically, if you could tokenise a Pokémon, and take it outside of the core game, how much value would it have? Inside the game, it can battle, breed, swim and fly. Outside of the game, it is a digital paperweight. If there is no purpose, then the 'interoperable metaverse' or 'one metaverse' may not make sense, and siloed metaverses will prevail. Siloes may not be as exciting, but they may end up the more lucrative and sensible environments to build – and they do not necessarily need web3.



“The metaverse amplifies existing legal issues and raises new ones.

Centralised metaverses, such as those focused on games, tend to engage consumers in a controlled space and operate within familiar legal frameworks. For example, users purchasing a virtual accessory are likely to understand its use will be within tightly prescribed parameters. Decentralised metaverses, which incorporate web3 (such as NFTs) are more challenging, as users may expect virtual assets to be portable. However, those assets are governed by inconsistent and often unclear terms, and the lack of technical standards can result in limited interoperability between metaverses.

For the user, social interactions in virtual worlds can feel realistic, inviting scrutiny from policymakers and regulators focused on online safety. An increased legislative focus on children online will also require platforms to assess or verify the age of users. And collection of personal data – such as eye movement within a VR headset – will require informed consent under data protection laws, and a clear understanding of who is controlling that data at any given time.

Finally, as content is key, clear contractual parameters are required to frame how intellectual property is used, whether user-generated content is permitted, and how illegal/harmful content is managed. Amid all of this, metaverse builders, content owners and brands must ensure they have a risk assessment and risk management framework in place to avoid costly mistakes, both reputational and financial, in an increasingly regulated space.”

The legal take: Andrea Leonelli, Consultant, Deloitte Legal

The bottom line

Arguably, early metaverses already exist. Young people in particular are flocking to them. Not because they want to replicate and replace real-world activities, like meetings or exercise. But because a metaverse allows them to have experiences, social and competitive, that are outside of the norm. Sandbox games like Roblox and Minecraft, for example, actively try not to look like the real world. They have blocky character models, and cartoon-like styling. Their purpose is to allow young people to meet more frequently than they can in real life and do things they can't in real life.

Virtual reality and web3 need to play a role that enhances a metaverse, not become a pre-requisite for it. Crucially, that role has little to do with faster chips, better displays or other technical progress... it will depend on purpose.

For example, a multi-platform metaverse, which allows people to connect via smartphone and PC, as well as VR headset, might provide a benefit to immersed VR users. This could be precise control of sight lines, or simply, fewer outside distractions to detract from the experience. In retail, some companies are exploring 'virtual commerce', which could be a digitally rendered twin of a store for users to explore from home. Crucially, these experiences cannot be limited to VR only, and must be able to succeed as a flat-screen experience, on a laptop, against the extremely convenient e-commerce storefronts that already exist.

Similarly, a metaverse that has some blockchain-based assets, but does not fundamentally need them, would be appealing to both the crypto-advocate and the crypto-despiser. It probably requires that users can buy, sell and trade NFTs without the need to use cryptocurrency (see how platform Dapper does this for NBA Top Shots⁹), or in some cases, without needing to know that the digital asset they own is even an NFT at all. Web3 might also unlock potential for business: if platforms partner on NFT and digital goods standards, asset interoperability could reinforce customer stickiness.

Virtual reality and web3 are clearly not needed for a metaverse to be lucrative. If metaverses are to succeed, they may not wait for virtual reality and web3 to catch up. But if implemented with purpose, those technologies could play a role in making a metaverse into a 'better-verse'.

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ENDNOTES

- ¹ Computer History Museum, <https://computerhistory.org/ivan-sutherland-virtual-reality-before-it-had-that-name-playlist/>
- ² *The Washington Post*, <https://www.washingtonpost.com/history/2022/06/30/snow-crash-neal-stephenson-metaverse/>
- ³ David Chaum, <https://chaum.com/wp-content/uploads/2022/01/Chaum-blind-signatures.pdf>
- ⁴ For example: VR can be a mainstream tech – but it’s not ready yet, VentureBeat, 2017, <https://venturebeat.com/arvr/vr-can-be-a-mainstream-tech-but-its-not-ready-yet/>; VR Might Not Be Ready In 2016, But It’s The Future, Popsci, 2016, <https://www.popsci.com/VR-Might-Not-Be-Ready-In-2016-But-Its-The-Future>; as well as comments from industry leadership, such as EA CEO Andrew Wilson who stated: “People seem to have come to terms with the fact that VR, while an unbelievably wonderful innovation for how you consume interactive entertainment..., is going to take a couple of years at least to get to a point where it is truly a mass market consumer opportunity”, in the company’s Q1 2018 earnings call, <https://seekingalpha.com/article/4091637-electronic-arts-ea-q1-2018-results-earnings-call-transcript>
- ⁵ IDC, <https://www.idc.com/getdoc.jsp?containerId=prUS48969722>
- ⁶ Upload VR, <https://uploadvr.com/beat-saber-one-million-copies/>
- ⁷ Statista, <https://www.statista.com/statistics/1192573/daily-active-users-global-roblox/>
- ⁸ For example: How web3 and the metaverse fit together, NASDAQ, <https://www.nasdaq.com/articles/how-web3-and-the-metaverse-fit-together>; Web3 and the metaverse are inseparably linked to each other, TechTarget, <https://www.techtarget.com/whatis/feature/Web3-vs-metaverse-Whats-the-difference>; New Digital Noise, <https://newdigitalnoise.com/web3-explained-why-web3-is-important-for-crypto-nfts-and-metaverse>; The metaverse and Web3: The next internet platform, The Deloitte Center for Technology, Media & Telecommunications, <https://www2.deloitte.com/us/en/insights/industry/technology/web3-and-metaverse-the-future-of-the-internet.html>
- ⁹ NBA Top Shot, <https://nbatopshot.com/>; Dapper Labs <https://www.dapperlabs.com/>



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