



Web 3 makes it possible for individuals to mint non-fungible tokens to sell their artworks on online markets like OpenSea (above) or trade cryptocurrencies like Bitcoin. PHOTO: REUTERS

TechTalks

Web 3, new version of Internet, promises greater data privacy

It touts change but there are drawbacks such as higher costs and security concerns

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For *The Straits Times*

Ever wondered what is happening to the data that is generated about you based on your online activities? The answer may be found in an epiphany from the documentary *The Social Dilemma*: "If you are not paying for the product, then you are the product". But a new version of the Internet, dubbed Web 3, promises change, and perhaps for the better.

The Web that we know now has come a long way. In the 1990s, the Web consisted mostly of organisations providing content, with limited interactivity. In 1999, Web 2.0 was coined to describe the emergence of websites and applications characterised by user-generated content. User-generated content includes social bookmarking Web service del.icio.us, online encyclopedia Wikipedia, video-streaming site YouTube, and social networks such as Facebook and Instagram.

The escalating amount of Internet users' data generated online has led to increasing privacy concerns. Governments and lawmakers around the world have responded to such concerns in recent years.

In January 2020, the Norwegian Consumer Council published findings about how various apps collected, used and shared sensitive information about their users such as locations, dating choices, sexual orientation, ethnicity and political beliefs.

More recently in January this year, multiple states in the United States have filed lawsuits against Google for allegedly engaging in deceptive location data collection practices. The lawsuit is still ongoing, but the company has responded that the allegations were based on outdated understandings of their features.

How did we end up this way? An off-heard response is: we agreed to the terms of use when we downloaded an app or signed up for a Web service. But beyond user consent, it also reflects the principles of Web 2.0 – one of collaboration and sharing. The principles governing the next version of the Internet, known as Web 3, may offer a way to address some of the issues

plaguing users today. Web 3 involves applications premised on a new model of data ownership and control by users. It is built on blockchain, a transparent ledger on a distributed network where users have more control over how their data is collected and monetised.

Web 3 makes it possible for individuals to mint non-fungible tokens (NFTs) to sell their artworks on online markets like OpenSea, or trade cryptocurrencies like Bitcoin using smart contracts which are self-executing computer programs.

Bitcoin trading is considered an early form of a Decentralised Autonomous Organisation (DAO), a member-owned community without centralised leadership. The emergence of DAOs is significant as it opens up the possibility of profiting the community directly through transparency and the decentralised cooperation of all its members.

There are many types of DAOs, reflecting the varied interests of different groups. You might have heard of Pleasr, a DAO on Twitter focused on buying NFTs that are "culturally significant" and support charitable causes. Other DAOs focus on social networking, such as Friends with Benefits.

There are some drawbacks. First, Web 3 projects will incur higher operating and transaction costs – termed as gas fees and commissions payable to platforms – as they run on users' devices

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rather than on a company's centralised data centre. These costs are passed on to users. Gas fees can be as much as 40 per cent of the value of a transaction.

Second, Web 3 is not necessarily more secure. DAOs can be hacked if there are security vulnerabilities in the smart contracts, essentially computer programs. For instance, one such organisation which called itself The DAO lost US\$50 million (S\$70 million) three months after its 2016 launch to hackers who exploited a loophole in its smart contracts. Most investors recovered their funds but only after a significant change to the blockchain was made. Cryptocurrencies are also vulnerable to scams and phishing attempts, especially when it is stored in "hot" wallets which are constantly connected to the Internet. Disconnected wallets are harder to hack.

Critics have pointed out that the transparent nature of Web 3 may go against privacy. Even if transactions are pseudonymised, it may still be possible to extract the personal details of users from metadata and their transactional data on blockchains. There are limited ways to address this shortcoming as solutions to address digital identities in Web 3 are still emerging.

Finally, decentralised governance exists as a concept at best. In reality, people with a significant share of a blockchain's tokens, such as Web 3 project founders, have the controlling vote over most decisions. This came to a head when the Juno blockchain community voted to confiscate tokens from a user who was suspected of using his large number of tokens, invested on behalf of a community of individuals, to claim more non-tokens than he was entitled to.

It is, thus, not surprising that tech veteran Bill Gates recently blasted cryptocurrency and NFTs as "100 per cent based on greater fool theory", where prices increase based on whether or not people are able to sell to a "greater fool".

Nevertheless, DAOs offer an opportunity to rethink how Internet users can organise themselves and engage with one another differently. New business models may spawn. But these things do not happen overnight. They start from users first understanding how Web 3 projects operate.

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