Cultural Daily

Independent Voices, New Perspectives

What are decentralized applications (dApps)?

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We all use apps every single day. We work using applications, communicate with them, do our shopping, look for coupons, post on social media, and the list goes on and on. Apps are simply programs on our computers and smartphones. Most of us don't think too much about how they work until something goes wrong and few of us look too deeply into the tech behind them.

Decentralized applications (dApps) are a relatively new type of app. The user interface doesn't actually look much different from traditional apps, and they function in a similar fashion. So, what's the big deal? This article will explain what they are, the most common types of dApps, and then look at some of the pros and cons when compared with traditional apps.

Decentralized apps

The experts at Tech Target describe dApps as: "a type of distributed open source software application that runs on a peer-to-peer blockchain network rather than on a single computer". What this means is that the code for the dApp is created and then released to the public so that users can update and build on it. Changes must be approved by every user so that the dApp is free from central control and also can't be taken over by a small group of users.

Since dApps are built on blockchain, they are highly secure and provide decentralized storage. However, since the actual coding is the same as for traditional apps, they look and function the same as traditional apps do.

Popular uses

DApps are still a relatively new phenomenon, so it's hard to pin down exactly how they will be most commonly used in the coming years. Currently, the most popular ones are related to online security and privacy. For example, Mind is a dApp social media platform that sets itself apart from traditional social media by encrypting all users' personal data.

One of the emerging trends in dApps is the appearance of gambling dApps. These online casinos both operate on the blockchain and accept deposits and withdrawals in cryptocurrencies, so you know that the entire experience is incredibly secure. Some dApp casinos even have their own coins.

The vast majority of online casinos use random number generators to keep their games fair and have the return to player (RTP) rates of their games available so that players can know exactly

what their odds of winning are in the long term. dApp casinos go a step farther. They also use a blockchain function called provably fair to verify the outcome of games and ensure that players aren't being scammed.

Positives

Secure

Everything on blockchain is more secure than programs and software that do not use blockchain. If you're unfamiliar with how it works, the reason that blockchain is so secure is because each action or step needs to be validated before it can be altered. Each 'link' in the 'chain' must be verified and is recorded. This makes it difficult for the blockchain to be hacked. Even if someone does manage to hack a blockchain app, the fact that every step has been verified and recorded means that it is easy to spot where the problem is and trace what has been done.

Private

As anyone involved with cryptocurrencies knows, the blockchain allows people to remain anonymous. Cryptocurrencies are traded and stored in wallets with specific ids, but that id number is all that is needed. This means that people don't have to share additional personal information. DApps work the same way. As privacy concerns on the internet grow, being able to keep your personal data private matters more than ever.

Fault tolerant

For traditional applications that function on a centralized network, there is a major risk of the entire application going down. This could be due to hackers or to a server issue. The ability of an application or system to continue running normally even after a part of the network has gone down is known as its fault tolerance. Since dApps have no centralized home, they have an incredibly high fault tolerance.

Negatives

Work better when small

Since the entire user base can be involved in changes and a majority needs to approve them, it can be very difficult to scale dApps. They work best when there is a small and actively involved community of users. Once the user base grows, it becomes harder to manage and it takes much longer for any changes to be implemented.

Maintenance

Due to the nature of the blockchain, dApps require almost constant maintenance to keep them updated and bug free. As we mentioned above, the more users there are, the longer and more complicated the process of fixing these issues becomes.

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