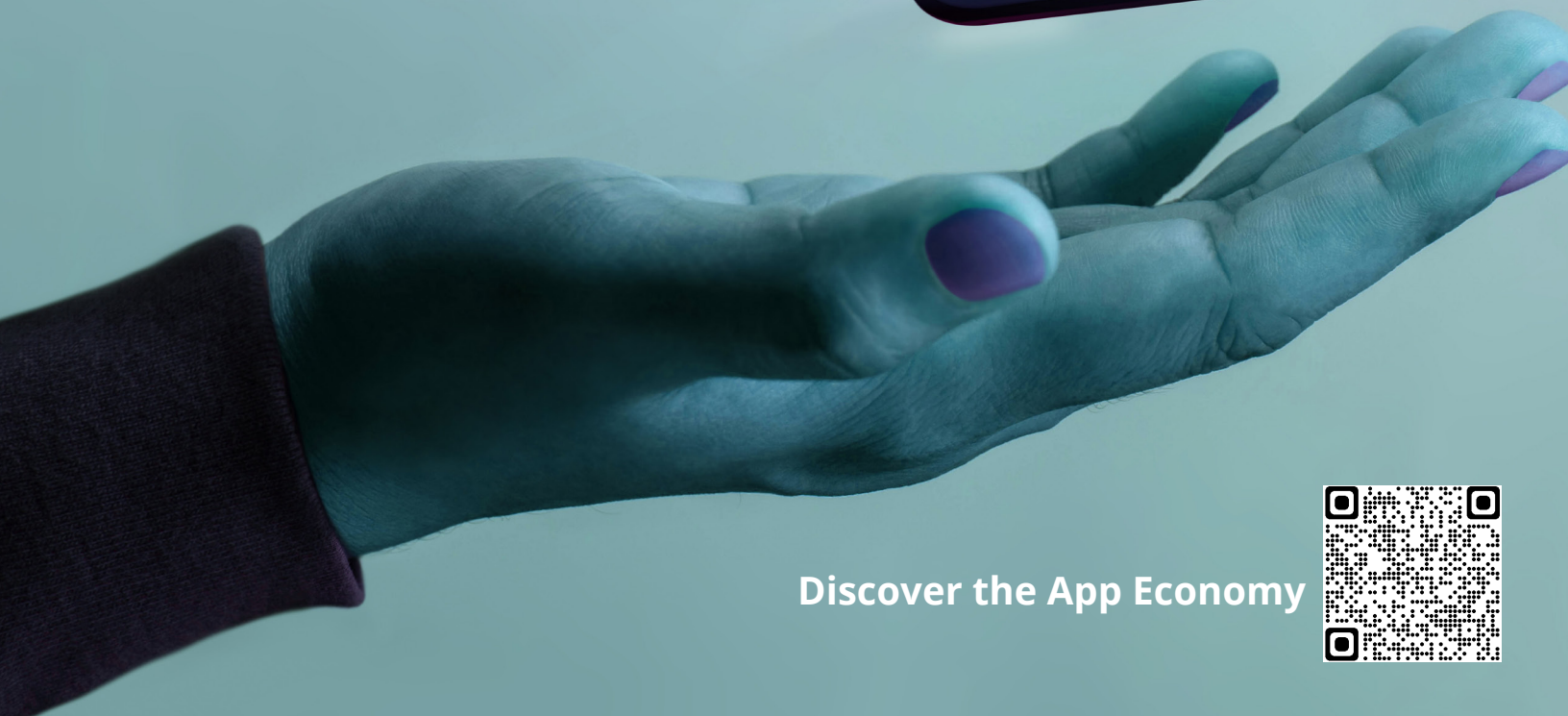


# Web3 and Crypto



Discover the App Economy





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# Key Takeaways

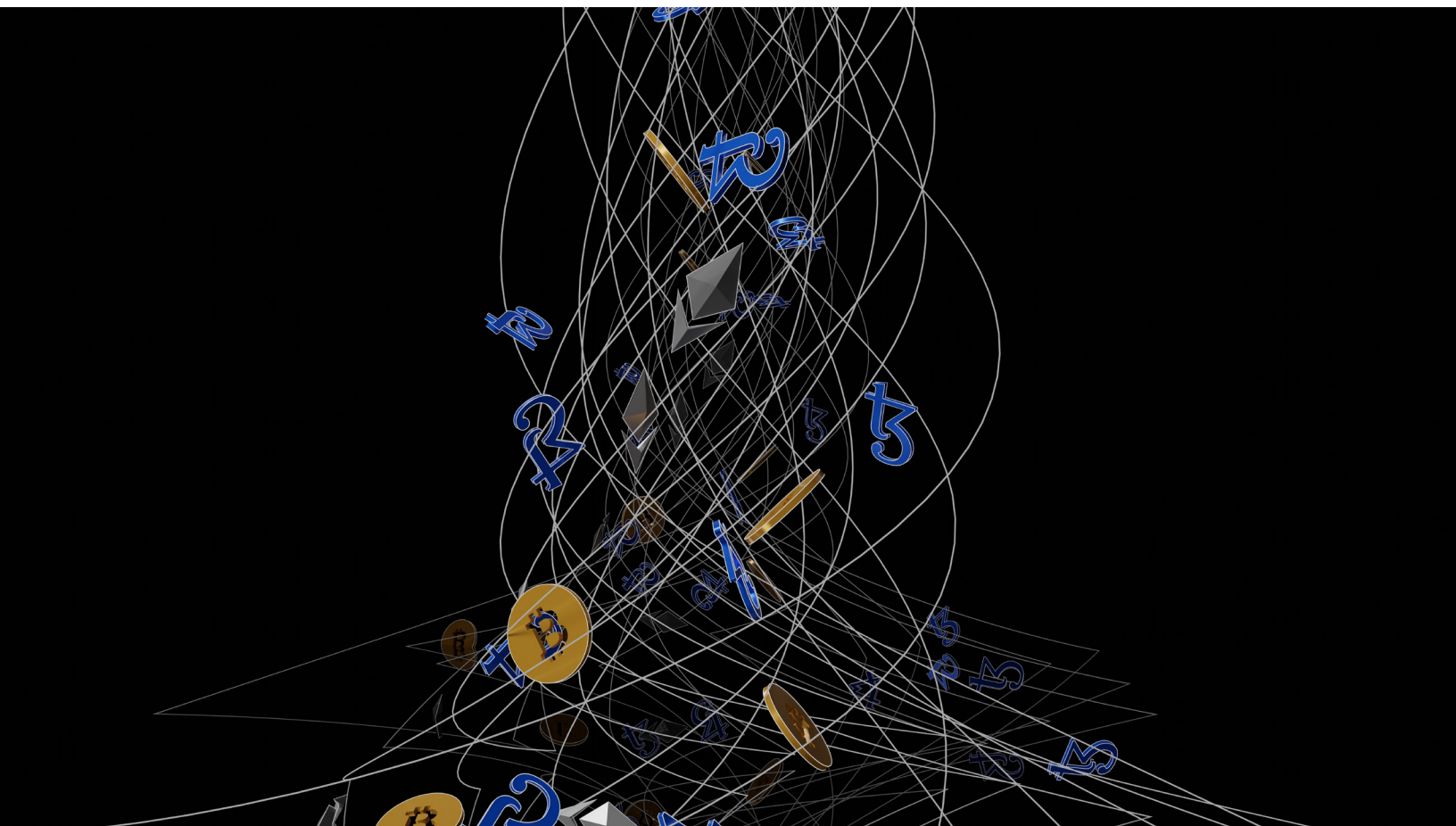
- 1** The heart of Web3 is the decentralization of information in an open, permission-less, user-oriented network.
- 2** Crypto assets are a key layer of Web3 frameworks, and our membership supports legislation that regulates and evaluates the risks associated with such assets.
- 3** ACT | The App Association aims to increase policymakers' technical understanding of blockchain and crypto asset technologies as our members utilize such technology to create jobs and expand in the evolving digital ecosystem.


# The Emergence of Web3

Over the last several years, regulators and industry leaders have monitored the rise of Web3, the “new” iteration of the internet that incorporates elements of blockchain technology. The decentralized nature of Web3 raises new questions about how government should deal with the risks associated with its use.

Web3 is a nascent technology, so small U.S. developers and industry leaders must work together to collaborate on how this emerging technology can reimagine our traditional financial system, from supply chains to healthcare management. **ACT | The App Association encourages Congress to continue its efforts to address observed harms and costs associated with the use of crypto assets and tools like blockchain ledgers. As a leading voice on competitive technology and software developers, the App Association is eager to serve as a resource on these emerging technologies and to enable small developers and users to enjoy the full benefits of the growing crypto network.**

Because Web3/crypto is not widely understood, we have prepared a crash course in the subject from the perspective of U.S. small businesses: background, opportunities, and risks.





## The Path to Web3

- Web1 was the earliest version of the internet. Web1 was a syntactic, or read-only, network. Most developers were companies like America Online (AOL), delivering information in one direction to the network. That information would display on the computer screen as a physical newspaper would, directly to users through the internet.
- Then came Web2, which we use today. Web2 set the stage for the platform-based economy (read-write) that included more interactive features for users and developers to communicate with one another. In this network, not everyone is necessarily a developer, but most users became owners of their own content or ideas on specific websites or platforms through this enlarged “network of networks.” As a result, developers built upon these websites and platforms to create and design the mechanisms and systems around users that enable them to engage with one another. This gave rise to many of the prominent Web2 applications with which we are familiar today such as Google, Facebook, and Twitter. In using these applications, traditional Web2 technologies (i.e., HTML, JavaScript, XML) work with user interface software (i.e., ReactJS, InternoJS, AngularJS) to create an interface on the web for users to comment, like, and share content within that connected network. This relationship is known as a centralized network as users submit information one way to a direct platform, and vice versa.
- In part to address the inherent costs of Web2's siloed foundation, developers created an emerging set of protocols rooted in blockchain ledger technology, referred to as Web3 or the Semantic Web. Just as email protocols enable an Outlook account to email a Gmail account, Web3 provides a common protocol allowing for the exchange of a much wider array of information types between users, which enhances individuals' autonomy while altering their relationships with intermediaries. Accordingly, Web3 also allows for far faster and lower-cost operational capabilities. Developers like our members have jumped at the opportunity to harness Web3 to solve problems. Web3 capitalizes on artificial intelligence (AI) and machine learning (ML) to enable web systems to analyze and optimize data to users' specific needs. The heart of Web3 is the decentralization of information in an open, permission-less, user-oriented network.



## The Two Layers of Web3 - Blockchain and Digital Assets

### Blockchain

Blockchains are distributed, immutable ledgers that provide for the exchange of information or value, including crypto assets. They are the rails of Web3. What is a distributed, immutable ledger?

- A ledger refers to a record book of all the transactions within a block
  - Think of an old receipt book for cashiers to keep track of what was bought and what remains in stock
- Immutable refers to the fact that it is practically impossible for any person to tamper with a record of a transaction (an exchange of assets or information) after it has been added to the blockchain
  - Think of it as a shared vault among the community with specific passwords for each member to use for their specific needs, but the shared vault is unmodifiable
- Distributed simply means available or accessible to all users within the network

## Crypto Assets

Crypto assets—for example, cryptocurrencies like Ethereum—are another key layer of Web3 frameworks. These crypto assets are tokens that allow users to stake ownership or value in the underlying network itself. In other words, whereas Meta owns the Facebook social media platform, Web3 provides verifiable and—thanks to the blockchain, incontrovertible—ownership stakes in a network like Facebook by its users. In some scenarios, an algorithm rewards users for dedicating their own computing power to reconcile new transactions on the network (a function referred to as “mining”) with compensation in the form of tokenized values. This gives miners an ownership stake—along with proof of that stake—in the underlying network, an arrangement that has previously been costly and unnecessary since individual companies tend to own networks on Web2 and handle computing power in a centralized manner. In other scenarios, users simply exchange other kinds of value for tokens signifying their ownership stakes.

Either way, Web3 can potentially enable users to own and safeguard their own information to a greater extent, by virtue of their ownership of the underlying networks and the concomitant absence of centralized management of certain transactions.

The growing potential use cases for blockchains and crypto assets has paved the way for things like decentralized finance (DeFi), applications (Fintech), non-fungible tokens (NFTs), and virtual reality apps and games built on distributed, immutable ledgers. The controversial regulatory structure that tentatively splits digital coins and tokens into commodities or securities along nebulous lines has left many Web3 startups at a crossroads. Crypto assets that are substantially analogous to already-existing assets are likely to see the earliest successful attempts to impose a regulatory framework. For example, stablecoins’ value is tethered to fiat currency, so banking regulators readily recognize their fluctuations and the risks they present to American consumers and investors. The 117th Congress saw introduction of the Lummis-Gillibrand Responsible Financial Innovation Act (S. 4356), which would comprehensively regulate crypto assets, assigning oversight jurisdiction to various federal agencies according to asset type and the character of risk associated with each kind of asset.





## Web3 is in Progress

Adoption of Web3 is uneven and still in progress. Developers and investors are continually grappling with and investing in the best use cases for blockchain. As blockchain matures and more crypto token projects proliferate, regulators and policymakers alike must recognize the potential benefits and risks of altering the incumbent centralized system.

### The common use cases of blockchain technology include:

- Financial management
- Procurement processes
- Supply chain management
- Smart Contracts
- Decentralized Autonomous Organizations (DAOs) and Decentralized applications (dApps) and identifiers (DIDs)