Web3 Landscapes

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Web3 is the latest version of the Internet based on decentralized networks. One of its major advantages compared to Web2 is that it has the potential to neutralize the centralized control exerted by Web2 applications, and thus allow users to govern the services they use with a distributed architecture. The disruptive potential of Web3 attracts many venture capital investments. According to Kevin Kelleher from Fortune magazine, in the first half of 2022 there were over 18 billion dollars investments in Web3[1].

The Entrepreneurship in Web3 course I'm taking this semester at UC Berkeley has been particularly inspiring. In one of the classes, Mr. Dan Robinson gave us an overview of the Web3 landscape and also introduced us to many key aspects to consider when building Web3 products as entrepreneurs [2]. When thinking of startup ideas, it is crucial to ensure the products we are going to build have unique differentiators that set them apart from their competitors in the marketplace. Companies thrive by establishing and strengthening their business moats, which protect their long-term profitability. As entrepreneurs, we should always identify the problem our customers are experiencing and address their pain points with our products. In this article, I will give a summary of the various landscapes in Web3, including layer1, layer2, infrastructure, and Centralized and Decentralized finance products.

At the very bottom of the Web3 stack, we have layer 1 platforms. They are typically blockchain platforms such as Bitcoin and Ethereum. Layer 1 platforms are fundamental base networks which manage core business logic of most decentralized Web3 applications. Some popular high-throughput proof-of-stake blockchain platforms in the marketplace today such as

Solana and Avalanche attract crypto applications and users through lower transaction fees. Therefore, transactions with lower fees are these companies' most competitive advantage. When building layer 1 products, some of the major problems we could address are scaling, privacy, programmability as well as interoperability.

A major problem with layer 1 platforms is that it's very difficult to improve their scalability. Therefore, developers create layer 2 architectures as network layers that lie on top of the underlying layer 1 blockchains. They inherit the security and consensus of layer 1 architecture but at the same time allow users to make transactions more freely and efficiently. One popular L2 architecture is a "rollup". Rollups compile transactions and convert them into a single piece of data. There are two major types of rollups, ZK or Zero Knowledge rollups which use validity proofs and optimistic rollups which use fraud proofs. Some of the open problems in layer 2 platforms include efficiency, programmability and interoperability.

Layer 1 platforms usually provide only a set of very minimal consensus services. In order for users to build applications on blockchains, infrastructure platforms such as wallets, block explorers, developer toolings etc. are needed. For example, Fireblocks is a digital asset custody platform which provides private key security service to institutional users. Users could use this platform to perform complex transactions such as Defi interactions. Important problems we could possibly address when building infrastructure platform products are user experience, decentralization as well as monetization.

Centralized Finance and Decentralized Finance are also important ecosystems in Web3. Centralized Finance platforms allow users to buy and sell crypto and offer crypto investment opportunities. Some popular CeFi companies are Coinbase, Binance and Anchorage etc. Open problems with CeFi are institutional adoption, interoperability as well as regulatory compliance.

DeFi on the other hand offers a number of financial services such as earning interests, lending, trading and much more on public blockchains. Defi has three distinguishing characteristics including transparency, control and accessibility. Everyone involved is able to view the full set of transactions and every user has control over their own assets. Defi includes DEXs, stablecoins, NFT marketplaces etc. When building Defi applications, it is important to think of user experience, efficiency, security and regulatory clarity issues.

Overall, Web3 is a version of the Interest that aims to provide its users with sovereignty. When designing and launching our own Web3 applications, this lesson on Web3 stacks gave us an introductory guide on the various entrepreneurship opportunities in Web3.

References

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