

NFTs and DApps

Lesson 9

Ethereum: Beyond Basics

Building on our previous discussion on Ethereum, this lesson explores its ecosystem in greater detail, diving into the revolutionary concepts and technologies that Ethereum has popularized in the digital world.

Decentralized Applications (DApps)

DApps are applications that run on a decentralized network, powered by blockchain technology instead of being hosted on a single centralized server. Ethereum's platform has become a leading environment for DApps, offering a wide range of applications from games to financial services without the need for intermediaries.

In an earlier lesson, we discussed the FTT Token, which provides us with a good example of a decentralized application (DApp). It began when the founder of a large exchange envisioned a trading platform that he would name FTX.



32565 Golden Lantern Street, Box B-1026, Dana Point, CA 92629 Interns@PrisonProfessorsTalent.com To advance the business, they created the FTX Token (FTT). To build FTT, the team chose Ethereum for its robust ecosystem, security, and flexibility provided by smart contracts.

Ethereum's capability to support ERC-20 tokens made it the perfect blockchain to host FTT. ERC-20 tokens were implemented through a smart contract on the blockchain that created a common framework that integrated smoothly with the broader Ethereum network.

The token would offer discounted trading fees, staking rewards, and exclusive access to new features and products on the FTX platform. The community responded with enthusiasm, eager to participate in the innovative ecosystem FTX was building. Ryan, an avid crypto trader, was among the first to acquire FTT.

By holding FTT, Ryan got reduced trading fees, enhancing his trading strategy's profitability. He also participated in staking FTT, securing additional rewards while contributing to the platform's liquidity and stability.

The success of FTT on Ethereum demonstrated the power of blockchain to innovate and democratize finance.

Ethereum Virtual Machine (EVM)

The Ethereum Virtual Machine (EVM) is a core component of the Ethereum blockchain. The EVM is the runtime environment for smart contracts in Ethereum, allowing them to be executed in a secure and isolated manner. It provides the infrastructure for smart contracts to run exactly as programmed without any possibility of downtime, censorship, fraud, or third-party interference.

Imagine if the judicial system operated on the EVM blockchain, making sure everything ran smoothly. Think of it as a super-powerful, all-knowing judge. Instead of obstructing progress, the EVM would oversee and execute smart contracts, automated agreements or sets of rules that live on the blockchain. People in prison would navigate their day, working through requirements of the smart contract.

If a person completed classes and avoided disciplinary infractions, the Smart Contract would dispense rewards as appropriate. There wouldn't be any bias. A person could work in gradual steps to Earn Freedom in gradual steps, with



the Smart Contracts incentivizing a pursuit of excellence. Everything would be done transparently and automatically, thanks to the EVM.

Ether (ETH)

Ether is the native cryptocurrency of the Ethereum platform, used primarily as a transaction fee and computational service for operations executed on the network. It's the fuel that powers the Ethereum ecosystem, incentivizing miners to secure the network and execute smart contracts.

Non-Fungible Tokens (NFTs)

NFTs are unique digital assets that represent ownership of specific items or content, verified using Ethereum's blockchain. Unlike cryptocurrencies such as Ether, NFTs cannot be exchanged on a one-to-one basis. This makes the tokens ideal for digital art, collectibles, and other one-of-a-kind items.

To make this lesson more relatable for people in prison, let's try to imagine a real-world application. As an example, for teaching purposes, we'll talk about Alex, a person who transformed years of reading behind bars into a ground-breaking venture.

Upon his return to the free world, Alex discovered the power of Ethereum and its ability to mint Non-Fungible Tokens (NFTs). With a passion for books and a unique perspective shaped by years of solitude, Alex set out to create something special: audio books enriched with his insights and commentary, each a unique piece of art in its own right. With technology, it's easy to create audio books and to mint the books as NFTs.

Alex's journey began with the recording of his first audio book, a classic novel to which he added layers of interpretation and personal reflections, making the listening experience unparalleled. Understanding the potential of blockchain technology, Alex decided to mint his audio book as an NFT on the Ethereum blockchain. This wasn't just any digital file. Alex created a unique asset, a one-of-a-kind collectible that held not only the audio book but also a piece of Alex's soul.

Upon completion, Alex listed his NFT audio book for sale on a popular digital art marketplace. The smart contract attached to the NFT was meticulously crafted to ensure that Alex would receive a royalty payment every time the NFT changed hands in the future. This feature was the magic of Ethereum's smart contracts – allowing creators like Alex to continue earning from their work long after the initial sale.



The day arrived when a collector, intrigued by the uniqueness of Alex's audio book and moved by his story, decided to purchase the NFT. Alex received the payment in Ether (ETH), marking his first sale and the beginning of a new chapter in his life.

But the story didn't end there. As the collector shared excerpts from the audio book online, interest grew, and soon, another enthusiast offered to buy it. When the NFT was sold to a new owner, the smart contract automatically executed, ensuring that Alex received a royalty from this subsequent sale.

Word of Alex's unique audio books spread across the digital world, and with each sale, his reputation as an artist and storyteller grew. Collectors began to seek out his works not only for their content but for the opportunity to support Alex's journey from a reader in prison to a pioneering creator in the digital economy.

Through his venture, Alex not only found financial independence but also a way to connect with others, sharing his insights and experiences in a format that transcended traditional publishing. The blockchain, once a foreign concept to him, became the foundation of his success, offering a platform where his voice could be heard and his creations valued.

This story of resilience, innovation, and the transformative power of Ethereum's blockchain and NFTs serves as an inspiration to all. It highlights the potential for anyone, regardless of their past, to harness new technologies and make a lasting impact in the digital age.

Ethereum has paved the way for a new era of digital innovation. By enabling the development of DApps, facilitating the rise of DeFi, and popularizing NFTs, Ethereum has not just expanded the scope of blockchain technology but has also created new economic and creative possibilities.

Ethereum's journey from a visionary project to a foundational component of the digital economy illustrates the transformative potential of blockchain technology. As Ethereum continues to evolve, it will likely play a central role in shaping the future of decentralized applications, finance, and digital ownership.

In the next lesson, we'll continue our discussion on NFTs, showing people in prison can use this technology to begin building an income stream.



Investment:

Rather than beginning my position in Ethereum, I continued to build upon my position in Bitcoin. On February 15, at 10:53 am, Bitcoin traded at \$52,508.20. To round out my position to four Bitcoins, I purchased .25 Bitcoin for \$13,127.05. After the Coinbase fee of \$295.36, my total cost for this acquisition was \$13,422.41.

- » Total investment in BTC at end of day, February 15, 2024: \$192,202.76.
- » Total holdings: 4 BTC
- » Total value: \$210,032.80
- » Gain or Loss: \$17,830.04

The value of my holdings surpassed the total amount that I had paid by \$17,830.04.

Disclaimer:

For full transparency, I am not an investment advisor. Our nonprofit, Prison Professors, offers these lessons for the singular purpose of helping people learn more about the digital economy. I provide information on my personal investments to show that even a person who served 26 years can participate in the digital economy. I am an investor and a speculator, understanding the risks. No one should invest in any asset class without a strategy and a plan, as shown through our introductory course: Preparing for Success after Prison. Always develop an understanding of investment risks—especially with cryptocurrency.

Critical Thinking Questions:

- 1. How do DApps on Ethereum differ from traditional web applications, and what are the potential benefits and challenges of DApps?
- 2. How can DeFi and NFTs change the landscape of finance and digital ownership?
- 3. In what ways could you use the Ethereum blockchain and smart contracts to build income streams upon your release?

Advocacy Initiative:

Please share your story and responses through the manner that works best for you:



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- 1. Send through email to Interns@PrisonProfessorsTalent.com Subject line: Digital Economy Course
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Three most recent lessons sequences:

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- » Lesson 10: NFT Development



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