Let's Mint an NFT: Hackpack

September 15, 2021 / 9:00 PM - 10:00 PM ET

Description

Non-fungible tokens (NFTs) are digital representations of a unique item stored on a blockchain. In this workshop we'll talk about blockchains, NFTs and why they matter, smart contracts (computer programs on the blockchain), and we'll do a build-along of an NFT that you can call your very own!

Learning Outcomes

Out of this workshop you can expect to learn:

- What is a blockchain
- What is an NFT and what's useful about it
- About smart contracts (computer programs on the blockchain)
- How to code a basic NFT in Solidity, the programming language of the Ethereum blockchain (and associated blockchains) using a web-based development environment
- What the future holds for NFTs in terms of climate impact, usability, and more
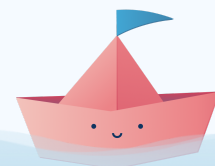
Prerequisite Knowledge

In order to get the most out of this workshop you should be comfortable with the following concepts:

- Basic to intermediate computer programming

Pre-Workshop Checklist

Before the workshop, please make sure you complete the following items:

- Please have an Internet connected computer with a modern web browser (Chrome, Firefox, Edge)
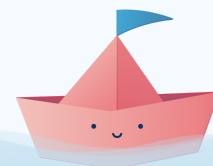
Timeline (1 hour)

Time	Module	Description
5 min	Introduction to blockchain	Five minute level set on some key concepts about what blockchain is
10 min	NFTs and why they matter	We'll talk about art and collectibles and how NFTs evolved to solve long standing challenges. We'll look at the most expensive NFT sold yet and dive into some code.
10 min	Smart contracts: computer programs on the blockchain	Blockchain isn't just for data: it's an unstoppable, globally distributed cloud computer. We'll look at what that means and talk about how blockchain works and how you can program to it.
20 min	NFT smart contract build-along with the web-based Remix IDE	Armed with what we've learned thus far, we'll drop into the web-based Remix IDE to modify an existing NFT to do some cool new things, mint some NFTs, and send them flying around the blockchain.
5 min	What the future holds	Many blockchains suffer from excessive energy consumption and usability issues, but it doesn't have to be that way. We'll talk about the future
10 min	Q&A and discussion	

Workshop Lead Contact

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Additional Resources

Hack the North Resources

Hack the North 2021 Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Workshop-Specific Resources

Remix web-based Solidity IDE

Remix is a full fledged Solidity smart contract programming environment on the web. We'll use it in the workshop to code up an NFT smart contract.

Amulet NFTs

The specific kind of NFT that we'll be working with is the *Amulet*. An amulet is "a kind of poem that depends on language, code, and luck".

- Concept: https://text.bargains/amulet/
- Implementation: https://github.com/Arachnid/amulets
- Social: https://twitter.com/WildAmulet
- Marketplace: https://opensea.io/collection/amulets-v4
- Amulets smart contract: https://github.com/curvegrid/amulets-flat
- Keccak 256 hash tool: https://emn178.github.io/online-tools/keccak_256.html

General Resources

NFTs, explained

General description of NFTs.

Ethereum Foundation NFT development tutorial

Introductory NFT programming tutorial.