UNIVERSITY of NICOSIA

Week 1, Session 1

Recap and Notable Token Examples

BLOC 528: Token Economics

Framing for Web3

The internet was developed in a very different era with the objective of file storage – not interaction.

- Every time we interact on the internet, copies of our data get sent to a server of a service provider.
- Users do not have ownership over their data.
- Social media companies built Web2 on top of the Web1 infrastructure.

The web3 revolution is a set of protocols with distributed ledgers where data is collaboratively managed in a peer to peer network of computers. Management of the network is governed by a series of smart contracts that rely on a consensus mechanism that aggregates information across decentralized users.

Recap on Concepts

A ledger is a file that maintains a growing list of transaction records, chained in blocks, that are cryptographically secured from tampering and revision. If manipulation attempts were made, the hash value of the manipulated ledger would not coincide with the hash value recorded on the copies of the ledger on all the other nodes.

The hash value of a block serves as a counterfeit protection that can be used to check the authenticity of a transaction on a ledger. Hash functions are mathematical algorithms that convert any type of data of an arbitrary size into data of a fixed size.

A distributed ledger is when a ledger is stored on multiple nodes of a cryptographically secured peer to peer network. The network nodes need to reach a mutual agreement about such a change through a consensus mechanism in order to make edits to the ledger data on all the copies of the ledger throughout the network. A distributed ledger, therefore, is a shared, trusted, public ledger of transactions that everyone can inspect, but no single user controls. Each independent node on the ledger has the latest version, which contains all the transactions that have ever been made, and can verify the transactions.

A consensus mechanism is a protocol that is designed with economics and cryptography ideas in mind, allowing for distributed control of a blockchain network. The mechanism provides the incentive, or reward, necessary to discourage cheating the network and falsify the blockchain.

Recap on Concepts

A blockchain is typically a public infrastructure that collectively maintains a shared distributed ledger where immutable and encrypted copies of the information are stored on every computer in the network.

A token is an entry on a ledger that belongs to a blockchain address. Only the person with the private key for that address can access the token using a wallet software. The token reflects a claim on an asset – whether digital or physical – and can often be transferred among participants in a system.

A smart contract is a self-reinforcing agreement formalized as a software that contains a set of rules under which the parties of that smart contract agree to interact with each other. If and when the predefined rules are met, the agreement is automatically enforced by the majority consensus on the blockchain network.

A non-fungible token (NFT) is a unique digital asset. Unlike a Bitcoin or Ethereum, which is fungible – one ETH is the same as another ETH – an NFT is inherently non-fungible.

Defining Digital Assets

More detail will follow in subsequent sections, but it's helpful to have an overview from the onset.

Utility tokens provide some sort of "utility," or a product/service, for the holder. For example, an NFT could grant the holder access to a theater performance or unique access to interact with an artist.

Security tokens, on the other hand, collateralize an asset. Securities generally have a forecasted return around it that is promised to investors, but admittedly the bright line has become much less clear in the past year in the U.S. as the SEC now does not have an explicit stand on whether Ethereum is a security token or not. The law treats the two differently and remains and active point of contention.

Notable Use Cases: Overview

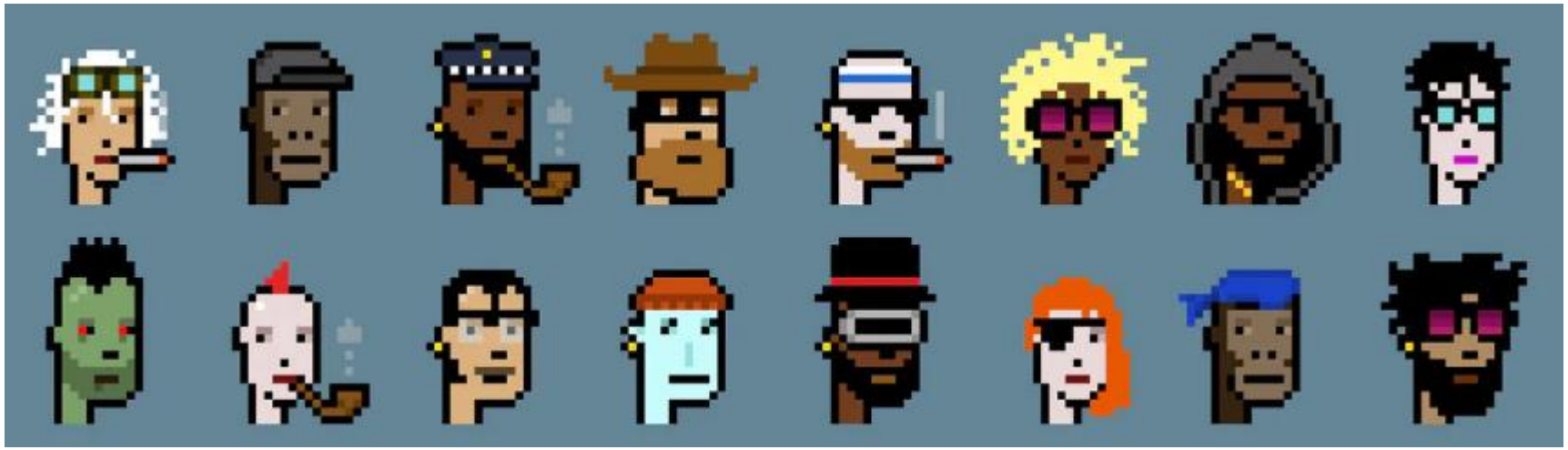
It's useful to have context over what's worked and dissect the relevant features – that will provide a template for thinking about not only your whitepaper assignment, but also the questions to ask and prospective token economics features to ensure that anything you launch in the future is a success.

Specifically:

- What makes a Layer 1 blockchain useful? Why does it scale so quickly?
- What makes some NFTs valuable, and others have a tough time selling?
- How do successful blockchains and NFT projects use tokens?

Notable Use Cases: CryptoPunks

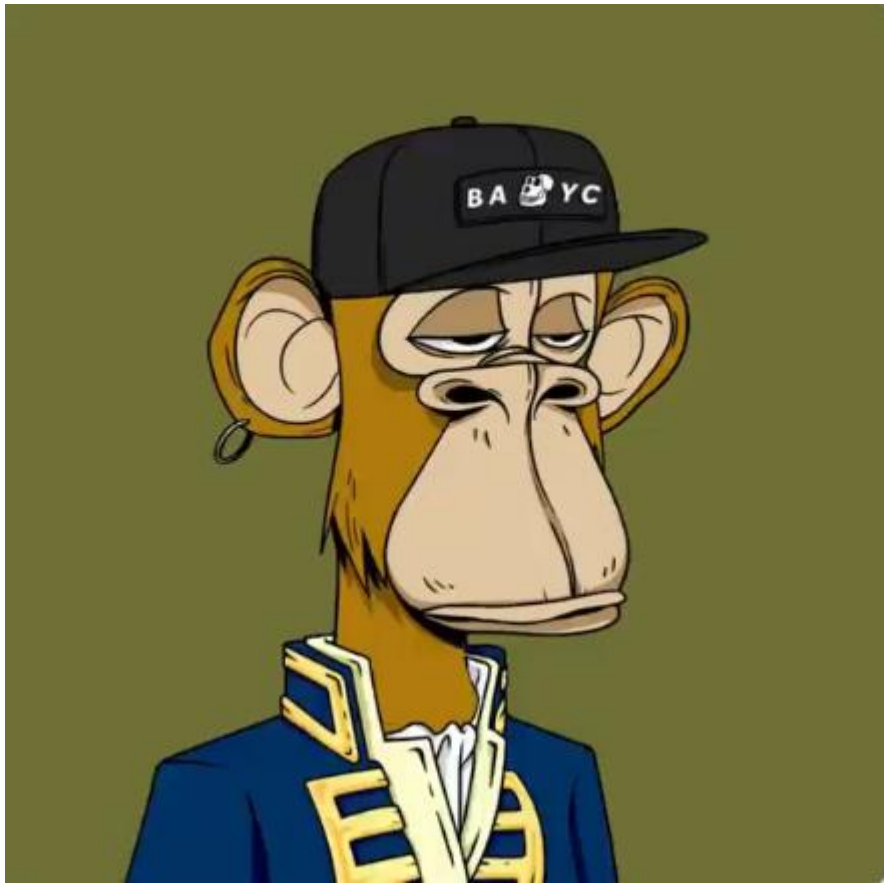
- In 2017, John Watkinson and Matt Hall at Larva Labs released a total of 10,000 punks, which were algorithmically generated. Their proof of ownership is recorded on the Ethereum blockchain.
- CryptoPunks are 24x24 pixel art images that are mostly punky-looking guys and girls with a few rarer types mixed in, such as apes, zombies, and aliens.
- The primary driver of their value was popularity and a club mentality – there was not anything inherently valuable about the art images, rather it was a signal of celebrity status.



https://hackernoon.com/why-are-cryptopunks-so-expensive-and-what-will-happen-to-them-in-2022

Notable Use Cases: Bored Ape Yacht Club

- Unlike CryptoPunks, the creation out of Yuga Labs was a little more than just a signal.
- Although some might find the visual imagery funny or pleasing, their greatest value-add and innovation is that they serve as a digital identity and owners receive commercial usage rights.
- That allows owners to sell any sort of spinoff product based on the art (e.g., the mutant apes and the serum).
- BAYC is also a membership, giving the owners access to an online “Soho House” and Discord rooms.
- In sum, it’s collectible art *and* community membership via gamification and franchising.



Notable Use Cases: Ripple and Ethereum

- At its core, Ripple is a solution to a challenge that banks are routinely faced with over cross-border transactions – they need a better back-end software for transferring money between companies.
- Ripple itself is not a cryptocurrency – it's a blockchain technology that facilitates money transfers and functions as an alternative to the slower and more costly SWIFT standard.
- XRP – the native currency for Ripple – behaves as a bridge currency such that banks can hold XRP instead of various types of fiat money to enable transfers.
- Although there are some similarities with Bitcoin, XRP is faster and more energy efficient in part because of its consensus protocol – a majority of validators simply need to approve a transaction to get approved.
- Nonetheless, it is going through a legal battle with the SEC because of the line between what is a security versus a utility token and that ultimately will need to get resolved.
- Ethereum shares a lot of similarities and was a first-mover to the arena, differentiating itself from Bitcoin using proof of stake.
- A big advantage of Ethereum is that it is an ecosystem that allows you to build dApps – an infrastructure.

https://www.coindesk.com/markets/2022/01/21/ethereum-could-hold-lead-as-dominant-smart-contract-blockchain-coinbase-analysts/

https://www.fool.com/investing/stock-market/market-sectors/financials/cryptocurrency-stocks/ripple/

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Questions?

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