From Online to Onchain

How blockchains are shaping the future…

Jeremy Saxey - Feb 10, 2024

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WordCamp Phoenix ’24

Slides

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Jeremy Saxey

Co-owner/CTO @ RadiateWP

16 years in WordPress (professional)

In blockchain (hobby)

- ≈2010 ??? - learned about
- Late 2017 - lost money
- Late 2020 - active

Slides

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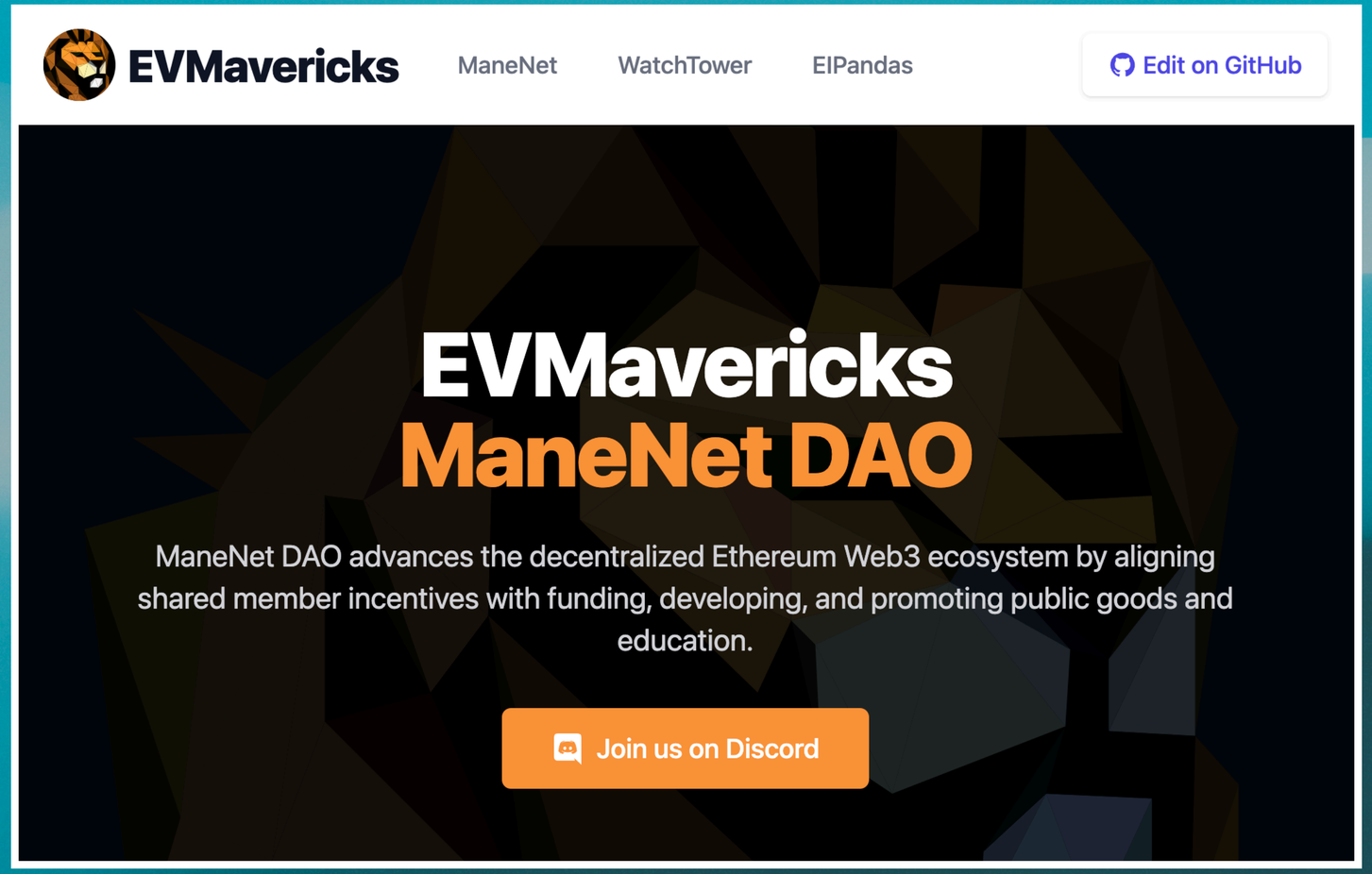
Hobby



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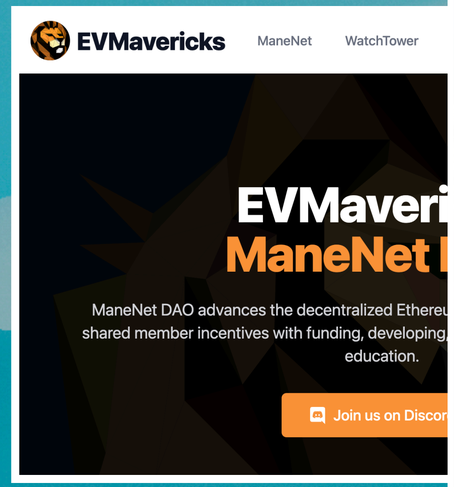

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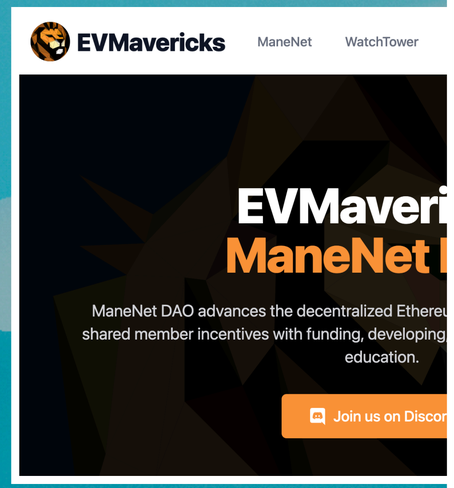
Hobby



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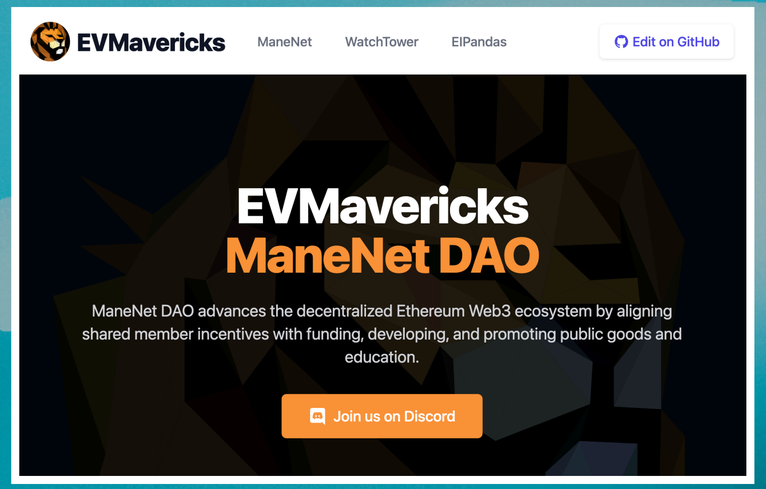
Hobby

Digital Autonomous Organization

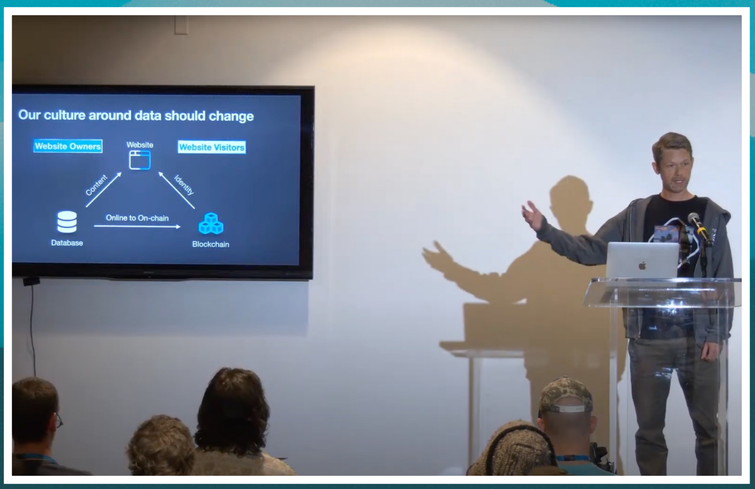


April 2022

Hodlercon 2022

June 2022

WordCamp Phoenix 2023



March 2023

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Wow
NOT FINANCIAL ADVICE

Who’s in the audience?

Let’s zoom out…

Pre-Renaissance:

- Medieval system
  - Feudal taxation, barter, etc.
  - Monarchy
- “Divine right of kings”
  - Religious
  - Political

Let’s zoom out…

Renaissance:

- Important innovations???

Top toolbar

Save draft

Publish

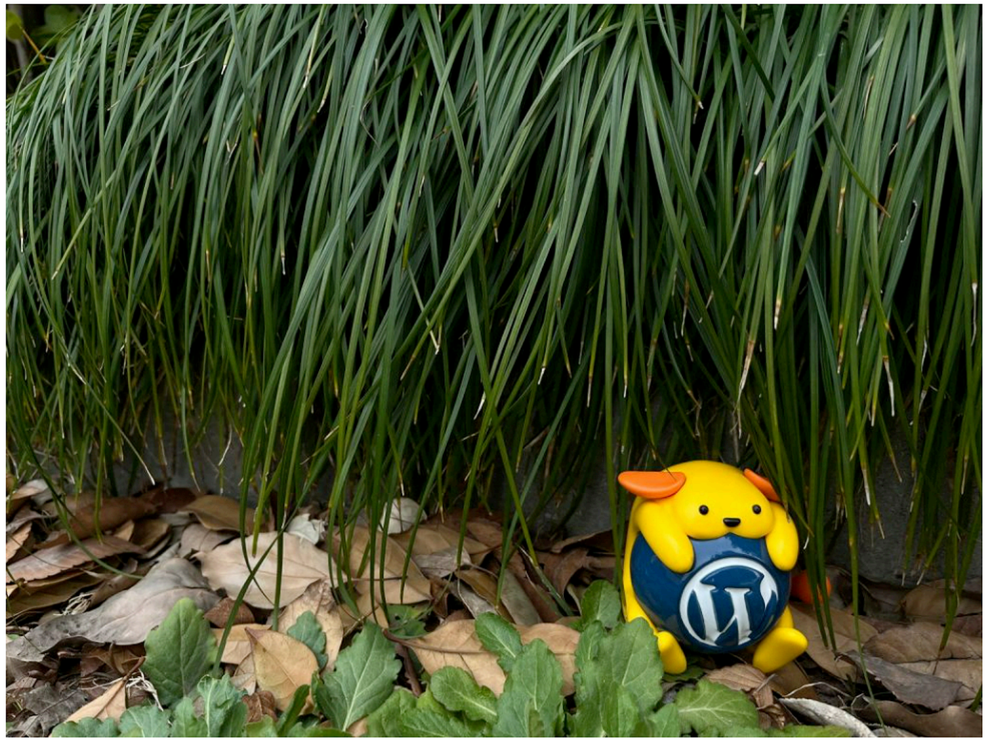
Post

Block

WordPress Block Editor

Post/Page settings & Block settings

Content area



Summary

Visibility Public

Publish Immediately

Template Single Posts

URL testytime.s3-tastewp.com/?p=9

Stick to the top of the blog

Pending review

AUTHOR

admin

Move to trash

Categories

Tags

Featured image

Excerpt

Discussion

https://wordpress.org/documentation/article/wordpress-block-editor/

Let’s zoom out…

Renaissance:

- Important innovations
  - Gutenberg Printing Press
  - Double-entry bookkeeping

Let’s zoom out…

Renaissance:

- Important innovations
  - Gutenberg Printing Press = faster exchange of ideas
  - Double-entry bookkeeping = more efficient commerce

Result…

Pre-Renaissance:

- Medieval system
  - Feudal taxation, barter, etc.
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Renaissance:

- Led to the Enlightenment Age
  - Modern financial system
  - Democracy
- Separation of:
  - Church
  - State

Important lessons

The Enlightenment Age:

- ↑ flow of info = ↑ rate of change
- Structural changes (social, economical, political)
- Power dynamics find *new equilibriums*:
  - Human coordination strengthens
  - Less centralization needed

Internet

Let’s zoom in…

Internet:

- Important innovations
  - Democratized publishing
  - Crypto-economic blockchains

Let’s zoom in…

Internet:

- Important innovations
  - Democratized publishing = even faster exchange of ideas
  - Crypto-economic blockchains = even more efficient commerce

Bitcoin

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main

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Bitcoin: Peer-to-peer digital currency

- Cryptocurrency: payments
- Blockchain: record transactions

Ethereum

Ethereum: A Next-Generation Smart Contract and Decentralized Application Platform.
By Vitalik Buterin (2014).

When Satoshi Nakamoto first set the Bitcoin blockchain into motion in January 2009, he was simultaneously introducing two radical and untested concepts. The first is the "bitcoin", a decentralized

Ethereum: A Next-Generation Smart Contract and Decentralized Application Platform.
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When Satoshi Nakamoto first set the Bitcoin blockchain into motion in January 2009, he was simultaneously introducing two radical and untested concepts. The first is the "bitcoin", a decentralized peer-to-peer online currency that maintains a value without any backing, intrinsic value or central issuer. So far, the "bitcoin" as a currency unit has taken up the bulk of the public attention, both in terms of the political aspects of a currency without a central bank and its extreme upward and downward volatility in price. However, there is also another, equally important, part to Satoshi's grand experiment: the concept of a proof of work-based blockchain to allow for public agreement on the order of transactions. Bitcoin as an application can

To say *crypto* is *just* bitcoin, is like saying the *internet* is *just* email

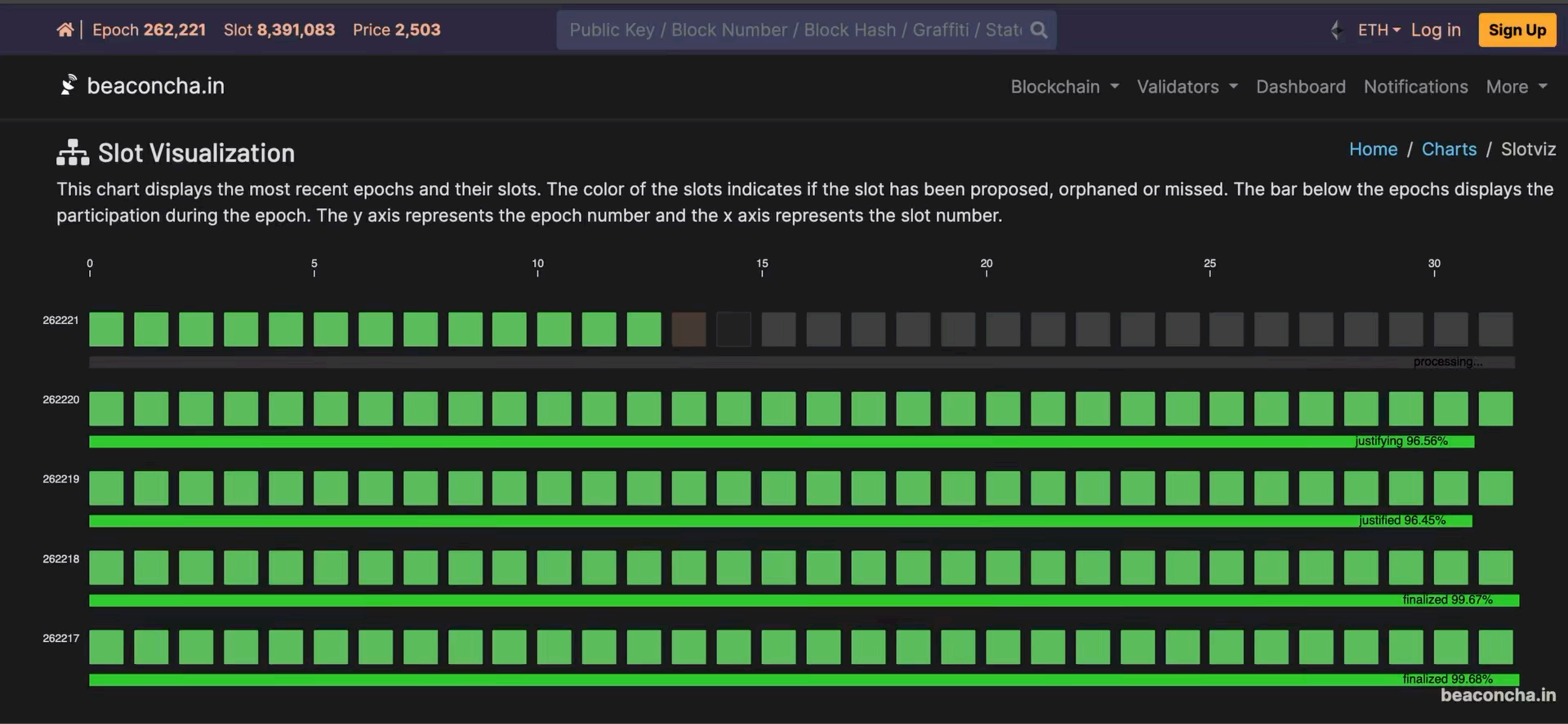
Ethereum: Smart Contract dApp Platform

- Cryptocurrency: payments
- Blockchain: record transactions
- Tokens: digital assets
- Smart Contracts: self-executing code
- dApps: Decentralized Applications that interact w/ smart contract(s)
  - what users interact with (web pages / phone apps)
- Smart Contracts + dApps = World Computer

Bitcoin is the world's spreadsheet,
Ethereum is the world's computer

Bitcoin is the world's spreadsheet,
Ethereum is the world's computer

Bitcoin can host financial transactions,
Ethereum can host a financial system



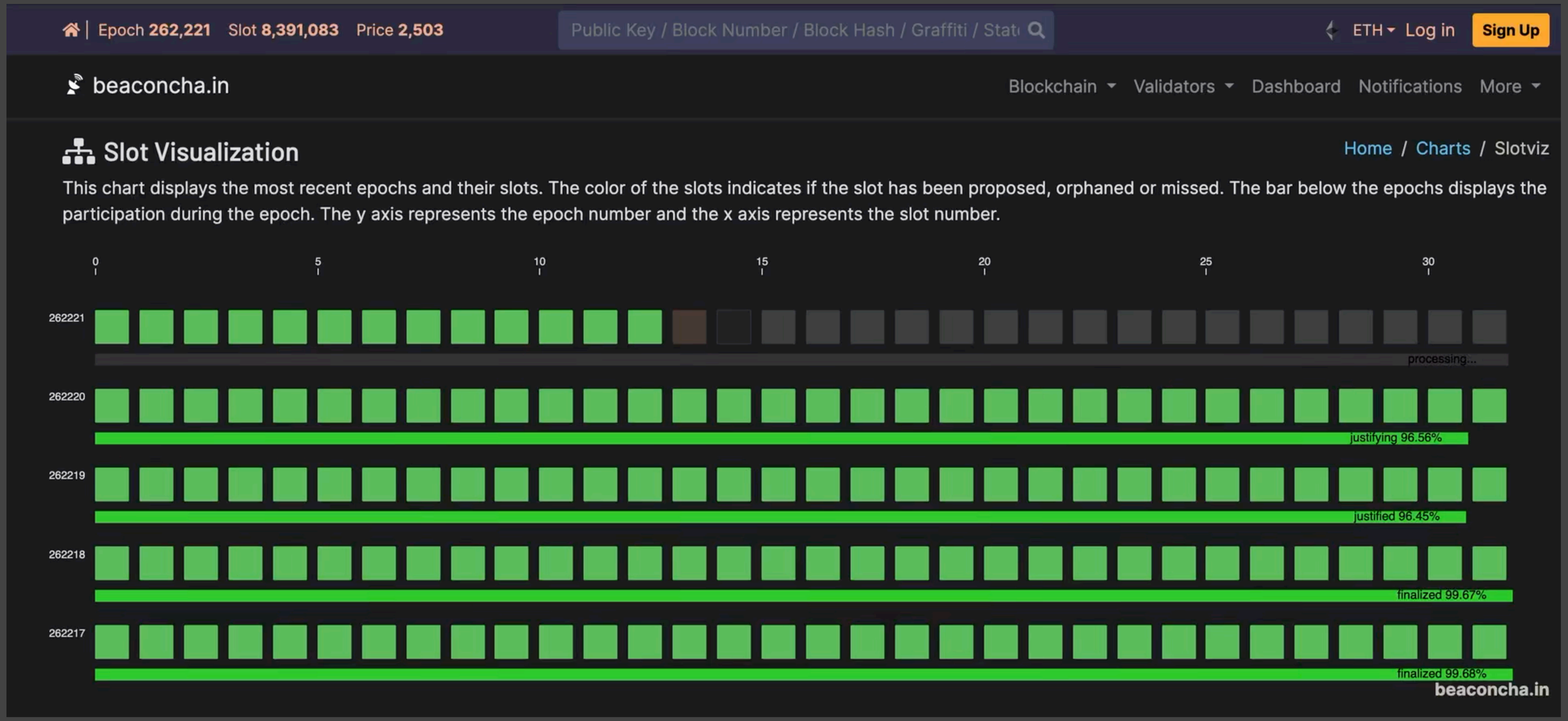
https://beaconcha.in/charts/slotviz

Ethereum slot

(every 12 seconds)

Ethereum epoch

(32 slots = every 6.4 minutes)



https://beaconcha.in/charts/slotviz

Blockchains (over)simplified…

Blockchains sell blocks

Blockchains sell blocks

Operators run the chain

“*Blockchains* go mainstream when they *become invisible*”

Online vs Onchain

- Early Internet
  - Dial-up
  - Not always on
  - “Go online”
- Today’s Internet
  - Ubiquitous
  - Always on
  - We don’t “go online”

Online vs Onchain

- Early Internet
  - Dial-up
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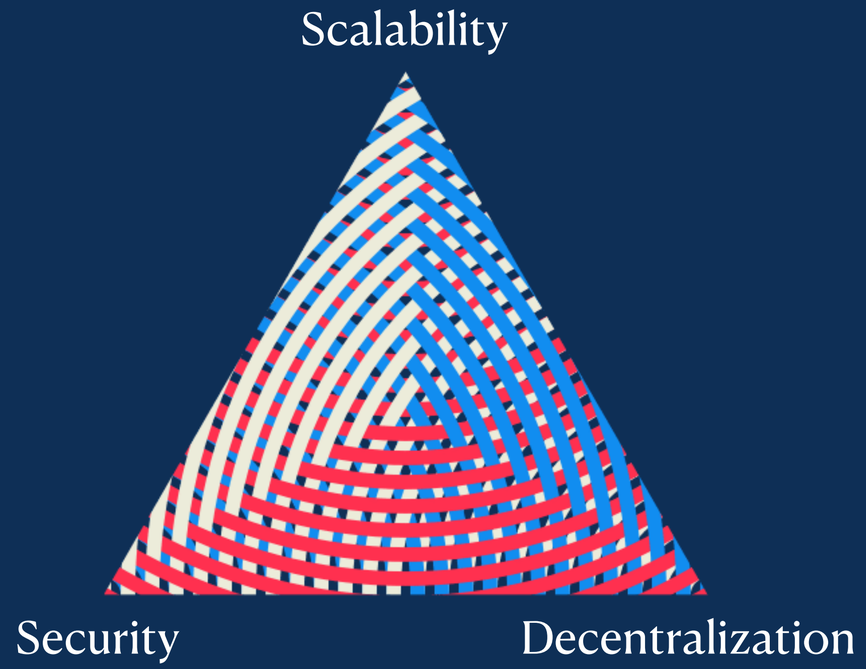
  - We don’t “go online”

- Early Blockchain (today)
  - Connect a wallet
  - Not always on
  - “Go onchain”
- Tomorrow’s Blockchain
  - Ubiquitous
  - Always on
  - We won’t “go onchain”

All blockchains have unsolved problems…



“The blockchain trilemma”

Blockchains are underconstruction

- Sustainable blockchains:
  - Pays it’s operators profitably (self-funding)
  - Active development community
  - Development roadmap (that addresses trilemma)
  - Similar to open source (or WordPress)
    - Not corporate, politically-backed (non-centralized)
  - Heavy community involvement

What can blockchains do?

- Money
  - Stablecoins (USDC/USDT)
  - Decentralized Finance (DeFi)
  - Tokenized Financial Assets
- Non-financial
  - Governance
  - Decentralized Social Networks (DeSoc)
  - ENS

Stablecoins: Digitized Dollar

- Token 1:1 pegged to ~~fiat currency~~ U.S. Dollar
- Onchain dollar-denominated liability
- Backed by:
  - Cash
  - Dollar-denominated assets (Tokenized treasuries)
  - Crypto-backed (staked ETH)

Cryptocurrency Prices by Market Cap

Show Stats

The global cryptocurrency market cap today is $1.47 Trillion, a -0.4% change in the last 24 hours. Read More

Show Fully Diluted Valuation

#	Coin		Price	1h	24h	7d	24h Volume	Mkt Cap	Last 7 Days
1	Bitcoin BTC	Buy	$37,135.99	-0.2%	-0.1%	5.9%	$11,259,968,041	$725,661,285,290	
2	Ethereum ETH	Buy	$2,049.22	-0.4%	-1.4%	7.9%	$10,950,516,173	$246,430,530,005	
3	Tether USDT		$1.00	-0.1%	-0.0%	-0.1%	$31,067,371,249	$86,749,610,625	
4	BNB BNB	Buy	$248.22	-0.3%	-2.3%	2.0%	$729,432,646	$38,142,792,285	
5	XRP XRP	Buy	$0.660737	-0.3%	-2.0%	1.4%	$922,268,452	$35,497,202,720	
6	USDC USDC		$0.999579	-0.2%	-0.1%	-0.1%	$6,070,564,850	$24,215,358,385	
7	Solana SOL	Buy	$55.98	-2.9%	-5.7%	37.0%	$3,171,001,922	$23,739,028,028	
8	Lido Staked Ether STETH		$2,049.12	-0.1%	-1.3%	8.0%	$11,768,475	$18,351,342,957	
9	Cardano ADA	Buy	$0.379932	-0.6%	-3.4%	9.6%	$453,883,268	$13,309,083,156	
10	Dogecoin DOGE	Buy	$0.078020	0.5%	-2.8%	9.9%	$1,180,673,677	$11,065,200,246	

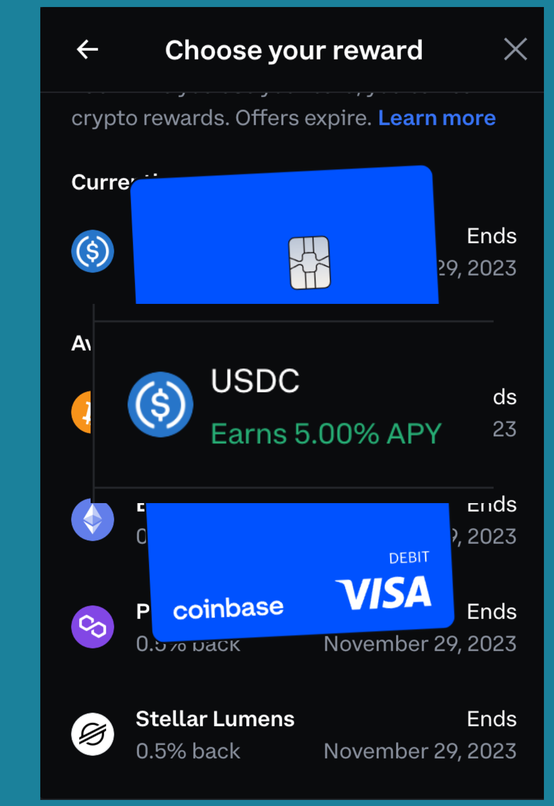
https://coingecko.com 11/12/23

Stablecoins: Usage (all stables)

- Only ≈10% of total crypto market cap
- ≈70% of all onchain activity (transactions)

Stablecoins: USDC real-world example 1

- Coinbase
  - USDC 5% yield
  - Free sends from Coinbase (no Tx fees)
- Debit card
  - Crypto Rewards (up to 4%, 0.5% currently)
  - Stablecoin-to-Fiat & back instantly
- Superior product



Stablecoins: USDC real-world example 2

- Coinbase wallet peer-to-peer payment feature
  - Send money via links only!
    - No info needed, no banks, instant, borderless
  - Zero fees
  - USDC (stablecoin)
  - Good example of chains becoming invisible
  - Digital money is better than the old banking system

{More on stablecoins, linked presentation next slide}

Blockchain to Crypto

Understanding the internet of value…

Stableford Conference

Available Soon!

Jeremy Saxey - Nov 13, 2023

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What can blockchains do?

- Decentralized Finance (DeFi)
  - Programmable money!
  - Be your own bank
  - Self-executing transactions (banking functions)
  - Self-repaying loans

What can blockchains do?

- Tokens:
  - Digital Assets (digital property rights)
  - Self-custody
  - Programmable!
  - Non-monetary value (POAPs, NFTs, etc.)
    - Utility value (voting rights, identity, membership, etc)
  - Listen to my WCPHX23 for non-financial side

Blockchain to Crypto

Understanding the internet of value…

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What can blockchains do?

- Governance
  - DAOs (Digital Autonomous Organizations)
  - Token-voting
  - Bicameral systems (DAO + Delegates, public token holder as voters)
  - All kinds of experimental voting & governance models emerging

What can blockchains do?

- Decentralized Social Networks (DeSoc)
  - Like email
    - Own your contacts (onchain or offchain)
    - Own your data (onchain or offchain)
  - You use whatever app/interface/algorithm you want
  - Censorship-resistant
  - Farcaster (Twitter competitor)
  - Lens protocol (early)

What can blockchains do?

- ENS
  - Like DNS
  - Human-friendly names to ethereum addresses
  - wcphx24.eth —> 0x1a5F37C56Cf7Ac89989b3aEfAe801Ee8E634fBbC
  - Decentralized on blockchain
  - Now w/ GoDaddy integration! (.com’s, etc.)

Domain Portfolio

ens.domains

Link your domain to your crypto wallet to send and receive cryptocurrency in web3 applications that support Ethereum Name Service. Once linked, you can share your domain instead of the long character string of your crypto wallet address. Check out our FAQ for more info.

Step 1: DNSSEC is on

DNSSEC is an advanced DNS security feature that provides an additional layer of protection for the connection between your DNS domain and your Ethereum address. This is required for establishing the link between your domain and Ethereum address.

Step 2: Link your Ethereum address

We'll link your domain to your Ethereum address and verify domain ownership by creating a TXT record. Locate your Ethereum address in your wallet provider's account.

Ethereum wallet address *

0xFe89cc7aBB2C4183683ab71653C4cdc9B02D44b7

Link

Result…

Pre-Renaissance:

- Medieval system
  - Feudal taxation, barter, etc.
  - Monarchy
- “Divine right of kings”
  - Religious
  - Political

Renaissance:

- Led to the Enlightenment Age
  - Modern financial system
  - Democracy
- Separation of:
  - Church
  - State

Result…

Renaissance:

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Internet:

- Led to the Digital Age
  - Blockchain financial system
  - Governing is a community matter
- Separation of:
  - Money
  - State

Important lessons

The ~~Enlightenment~~ Age:

- ↑ flow of info = ↑ rate of change
- Structural changes (social, economical, political)
- Power dynamics find *new equilibriums*:
  - Human coordination strengthens
  - Less centralization needed

Important lessons

The Entropy Potential Age:

- ↑ flow of info = ↑ rate of change
- Structural Change (Cultural, economic, political)
- Power dynamics and *new equilibriums*:
  - Human coordination strengthen
  - Less centralization needed

More
More
More
More
More
More
More

When?

Rate of change proportional to flow of info

Printing Press (1400s)

-Double-entry bookkeeping (1500s)
-Enlightenment (1700s)
-Democratic governments (1800s)

{Measured in centuries}

Internet (1990s)

-BitTorrent (2000s)
-Bitcoin (2010s)
-Ethereum (2020s)

{Measured in centuries}

“Blockchains are a global anchor for shifting times”

Semi-simple ideas for learning to dev in Web3

- Plugin has wallet connect, and have visitors sign a message.
- Read and write to a smart contract in etherscan
- Do the above using ether.js in a plugin
- Use Remix and write a smart contract, then deploy it on Goerli, verify it, then write to it in etherscan or connect to it through a website
- Write a plugin that gets a list of addresses with a certain NFT
- Write a plugin that gets the current block height (position onchain)
- Make a Wei to Eth converter
- Pull data from an api and output (HTML, JSON, CSV, etc.)

{Validating}

{Staking}

Thank you

We’re barely scratching the surface

{ Feedback Welcome }

{Consulting}

{Speaking}

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Thank you

{ Feedback Welcome }

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