

INTRO TO SOLIDITY

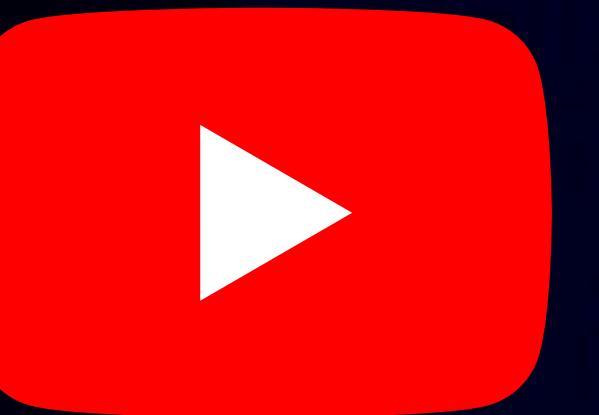


FRANCESCO CIULLA



Developer Advocate at daily.dev

Docker Captain



francescociulla.com

Francesco Ciulla

76.6K Tweets

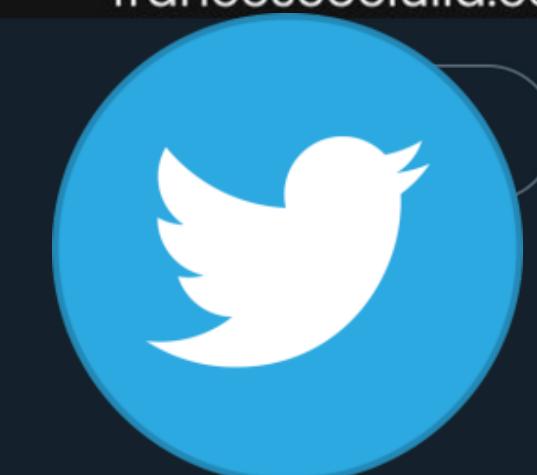
DEVOPS



WEB3



PODCASTS



Francesco Ciulla

@FrancescoCiull4

Web3 & DevOps should be accessible to Everyone -

Building a 1M Community ■██████████ 12% - Docker Captain - @dailydotdev 🥑 -

All the links ➡ francescociulla.com

💼 Professional Services ⚽ me@francescociulla.com

🔗 youtube.com/c/FrancescoCiu... 🎂 Born August 11, 1983

📅 Joined August 2013

379 Following 98.7K Followers



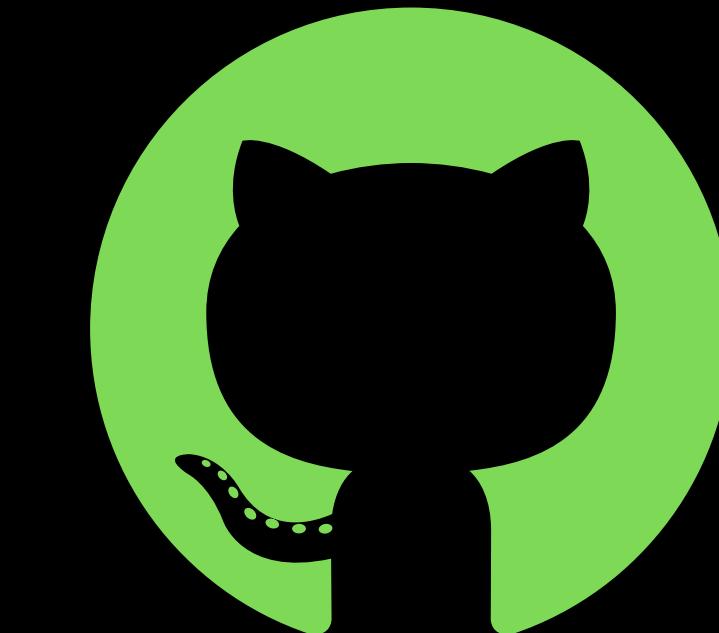
FOLLOW THE REPO



A screenshot of a GitHub repository page. The repository name is `FrancescoXX / free-Web3-resources`, described as Public. The main navigation tabs are Code, Issues (5), Pull requests (6), Discussions, Actions, Security, Insights, and Settings. The 'Code' tab is currently selected. Below the tabs, a file path `free-Web3-resources / intro-to-solidity.md` is shown, with 'in main'. On the right, there are buttons for Sponsor, Unpin, Unwatch (53), Fork (179), Starred (1.9k), and Cancel changes.

FREE-WEB3-RESOURCES

Intro to Solidity

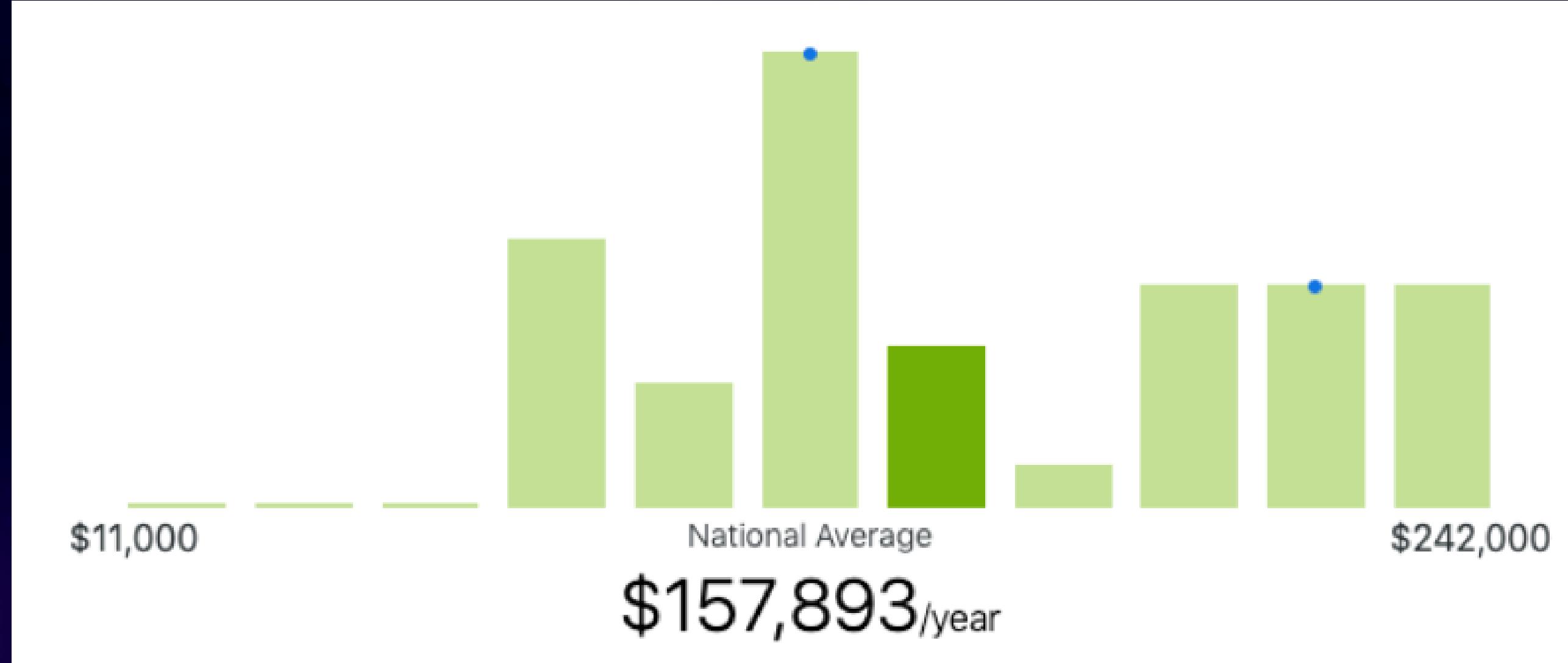


INTRO TO SOLIDITY



SOLIDITY DEVELOPER

SALARY RANGE





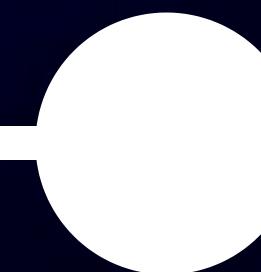
WHAT IS WEB 3 ?





WEB 1

1990–2005

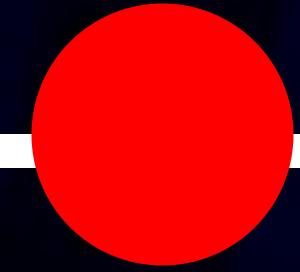


READ

STATIC PAGES
HTML

WEB 2

2006–PRESENT

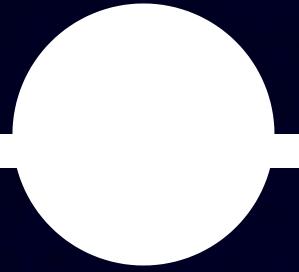


WRITE

SOCIAL MEDIA
USER-GENERATED CONTENT

WEB 3

SOON...



OWN

CRYPTOWALLETS
DAPPS
NFTS

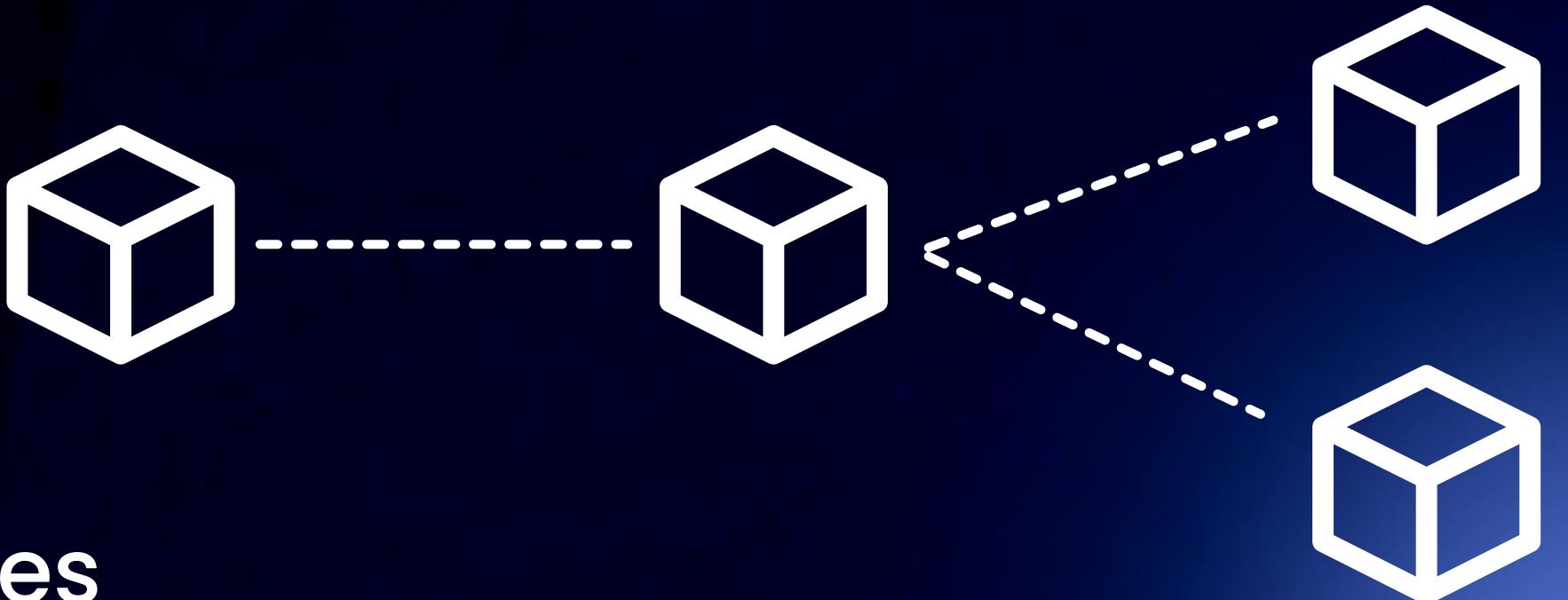
WHAT IS A BLOCKCHAIN



It's a growing list of blocks , linked together with cryptography.

It's a P2P Data Storage:

- Immutalbe
- Trustless
- Decentralized



It's spread over a network of nodes

BLOCKCHAIN ONCE UPON A TIME....



2008: BITCOIN...

Superior Digital
Store of Value

SATOSHI NAKAMOTO



Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshi@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 benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. Nodes make timestamp transactions by hashing them into an ongoing chain of hashbloks using a proof-of-work, forming a record that cannot be changed without redoing the work. The longest chain not only serves as proof of the sequence of events, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The system requires minimal structure. Messages are broadcast on a best effort basis so nodes can leave and rejoin the network at will, accepting the longest valid chain as proof of what happened while they were gone.

Abstract

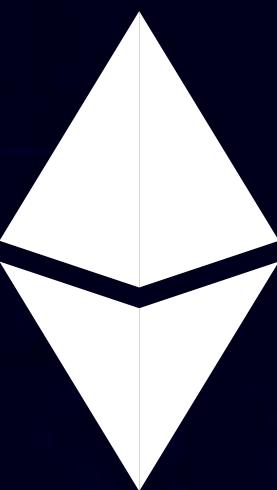
The net has come to rely almost exclusively on financial institutions serving as the primary means to process electronic payments. While the system works well enough for small-value transactions, it still suffers from the inherent weaknesses of the trust based model. Notably, these problems are not limited to a single company or server, but inherent in the nature of trust itself.



2015: ETHEREUM



**SMART CONTRACTS =
DECENTRALIZED AGREEMENTS**



VITALIK BUTERIN

Ethereum Whitepaper

This introductory paper was originally published in 2014 by Vitalik Buterin, the founder of [Ethereum](#), before the project's launch in 2015. It's worth noting that Ethereum, like many community-driven, open-source software projects, has evolved since its initial inception.

While several years old, we maintain this paper because it continues to serve as a useful reference and an accurate representation of Ethereum and its vision. To learn about the latest developments of Ethereum, and how changes to the protocol are made, we recommend [this guide](#).

[Open the Ethereum Whitepaper as a PDF](#)

A Next-Generation Smart Contract and Decentralized Application Platform

Satoshi Nakamoto's development of Bitcoin in 2009 has often been hailed as a radical development in money and currency, being the first example of a digital asset which simultaneously has no backing or "[intrinsic value](#)" and no centralized issuer or controller. However, another, arguably more important, part of the Bitcoin experiment is the underlying blockchain technology as a tool of distributed consensus, and

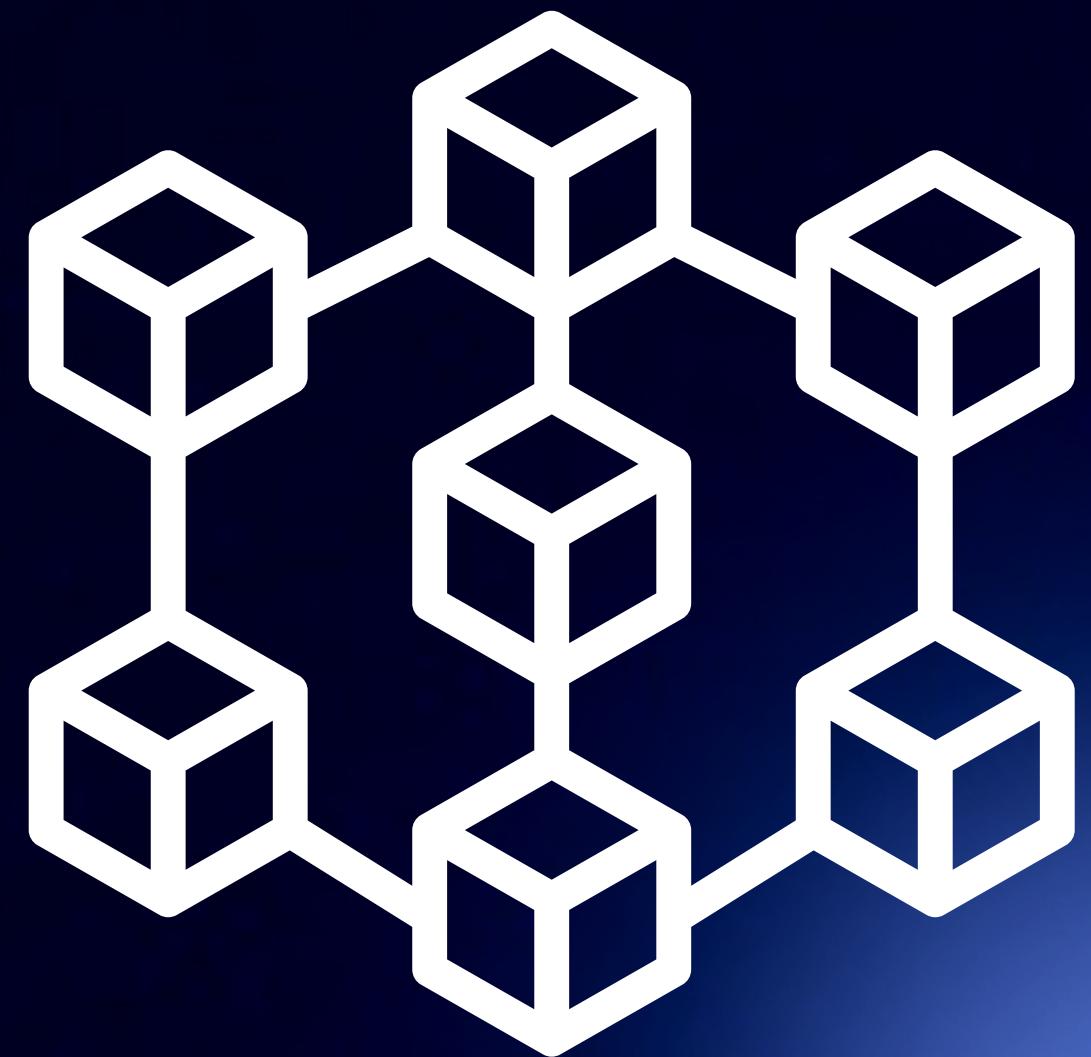
SMART CONTRACTS: NOT THAT NEW...

"A smart contract is a set of promises, specified in digital form, including protocols within which the parties perform on these promises." (1998)

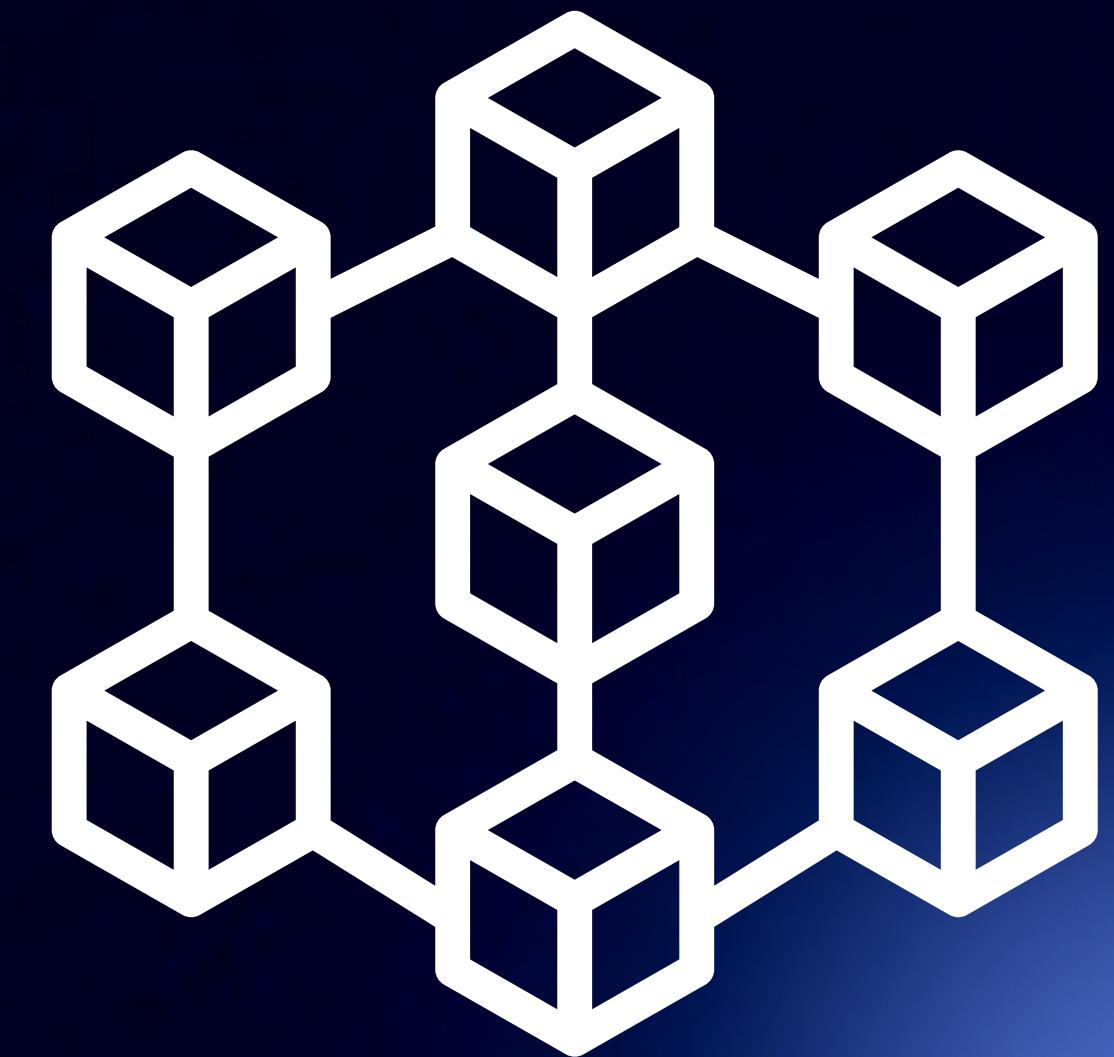
NICK SZABO



THE ORACLE PROBLEM



CHAINLINK DECENTRALIZED ORACLE NETWORK



HYBRID SMART CONTRACTS

CODE ON THE
BLOCKCHAIN

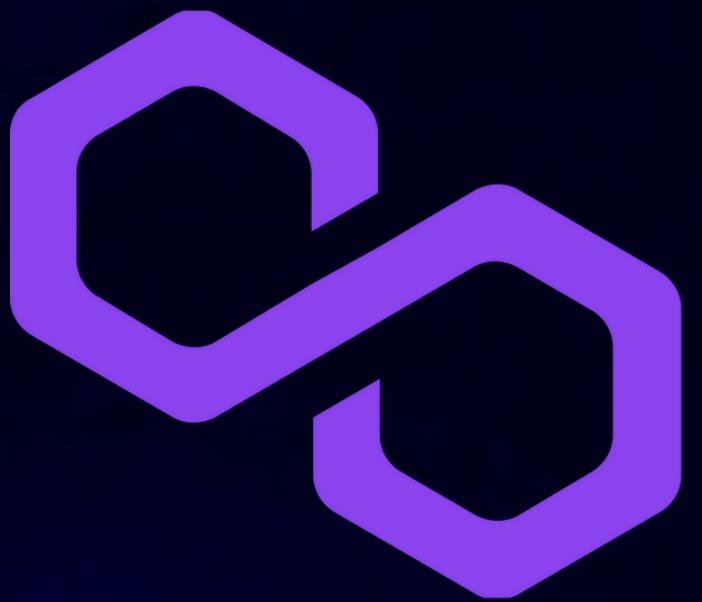


DATA ON
DECENTRALIZED
ORACLES





MANY BLOCKCHAINS!





DAPP
= DECENTRALIZED APP
= SMART CONTRACT



WHAT IS THE VALUE OF SMART CONTRACTS?

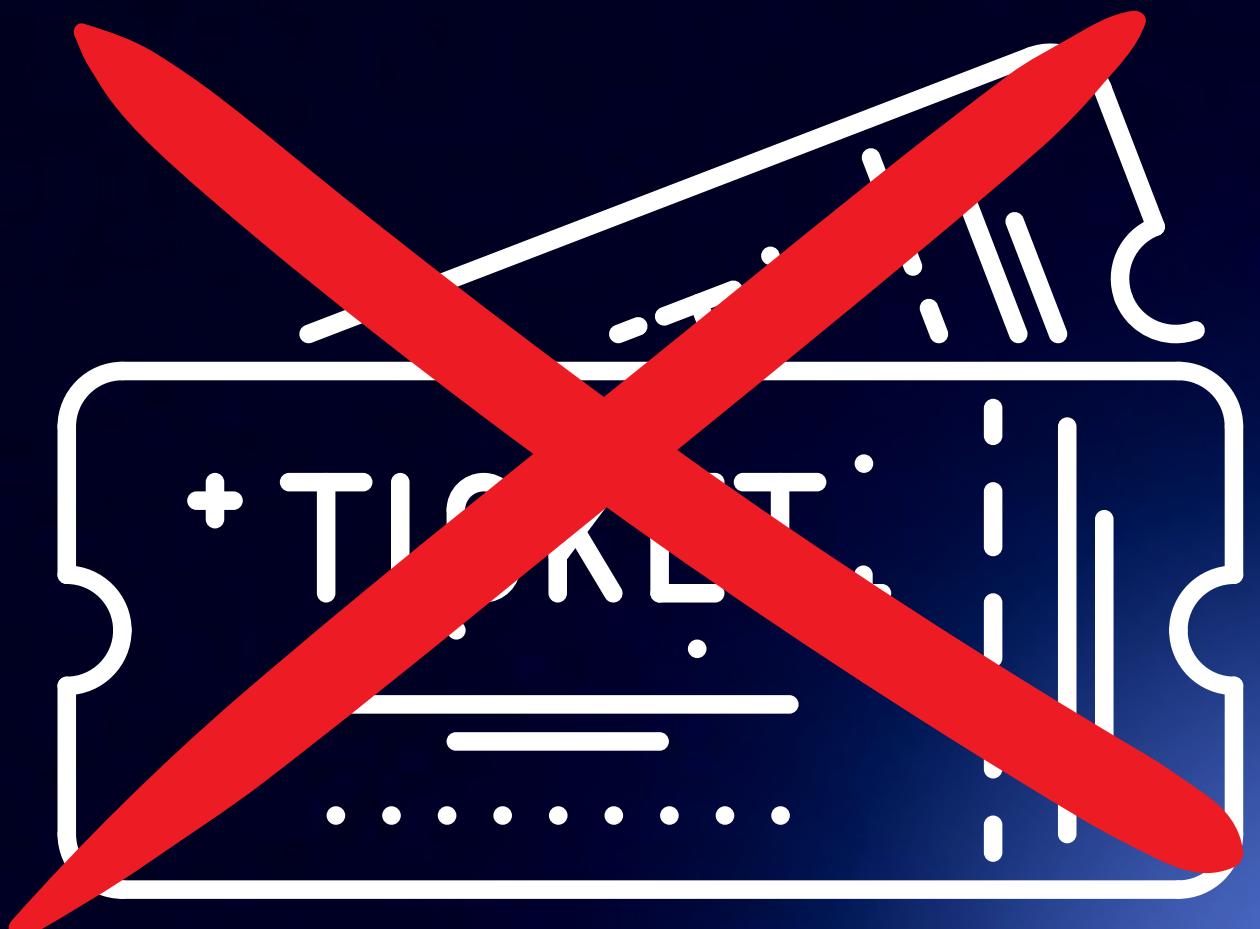
Easy & Trusted
agreements



EXAMPLE OF BROKEN PROMISES



2020 CONFERENCE TICKET





SMART CONTRACT

It's an agreement, contract, or set of instructions.

It's deployed on a blockchain.

SMART CONTRACT FEATURES



TRANSPARENCY



SMART CONTRACT FEATURES



TIME-EFFICIENT

Average time to process
ETH transactions:
15 seconds - 5 minutes



SMART CONTRACT FEATURES



IMMUTABILITY



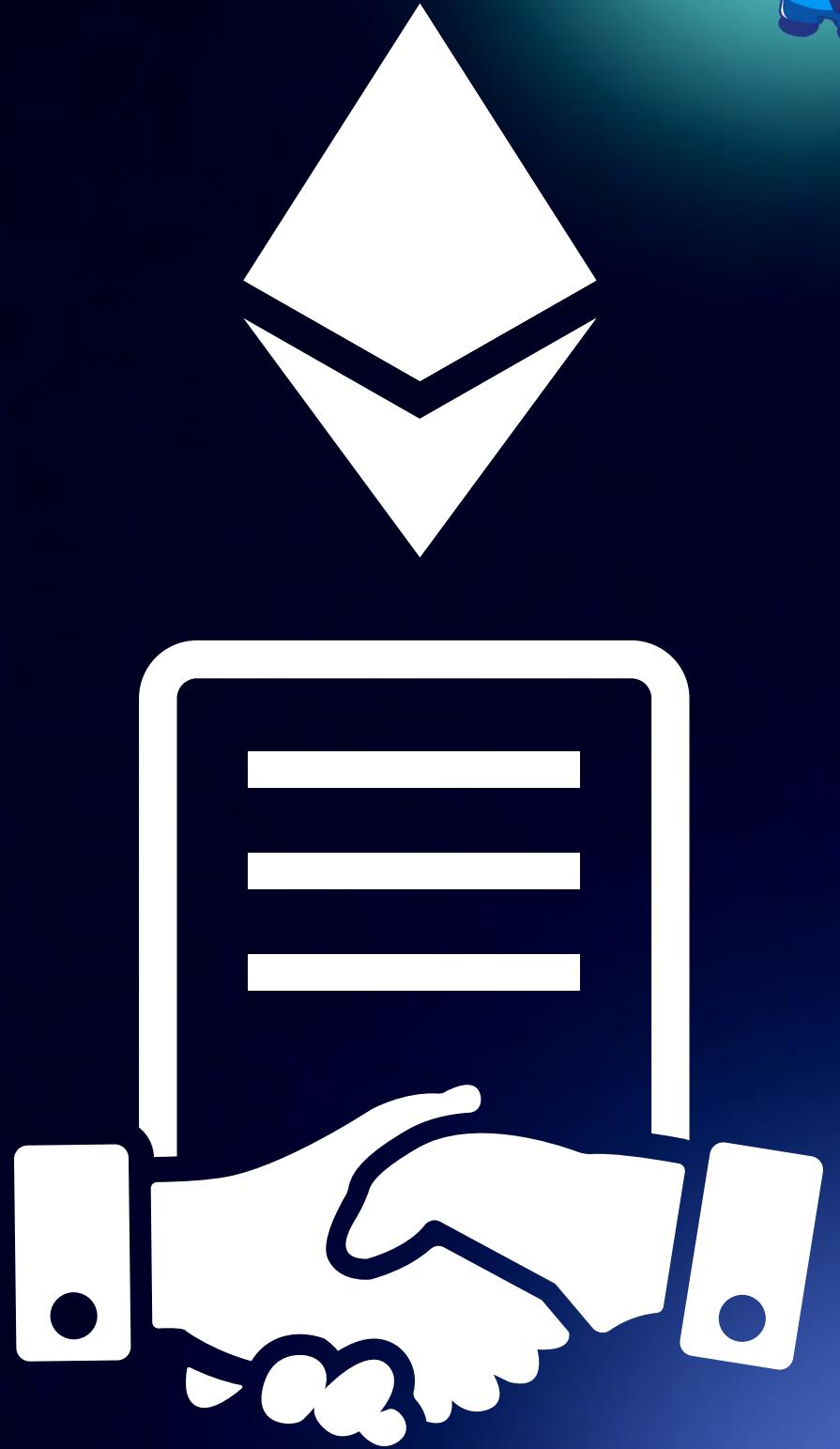
SMART CONTRACT FEATURES

NO NEED OF AN
INTERMEDIARY



SMART CONTRACT FEATURES

EASY & TRUSTED AGREEMENTS





DEFI

Financial instruments without relying on intermediaries such as brokerages, exchanges, or banks by using smart contracts on a blockchain.



DAOs

**member-owned communities
without centralized leadership.**



THE DAO: 2016 (70M \$)

NFT

The ownership of an NFT is recorded in the blockchain, and can be transferred by the owner, allowing NFTs to be sold and traded.



**Digital data stored
in a blockchain.**





WHAT IS SOLIDITY?



SOLIDITY

It's a language for implementing smart contracts on the Ethereum blockchain.

- object-oriented
- high-level
- curly brackets language
- strongly typed



SOLIDITY



1

2

3

BUT FIRST...



A TRANSACTION EXAMPLE



FRANCESCO CIULLA



THANK YOU!



francescociulla.com