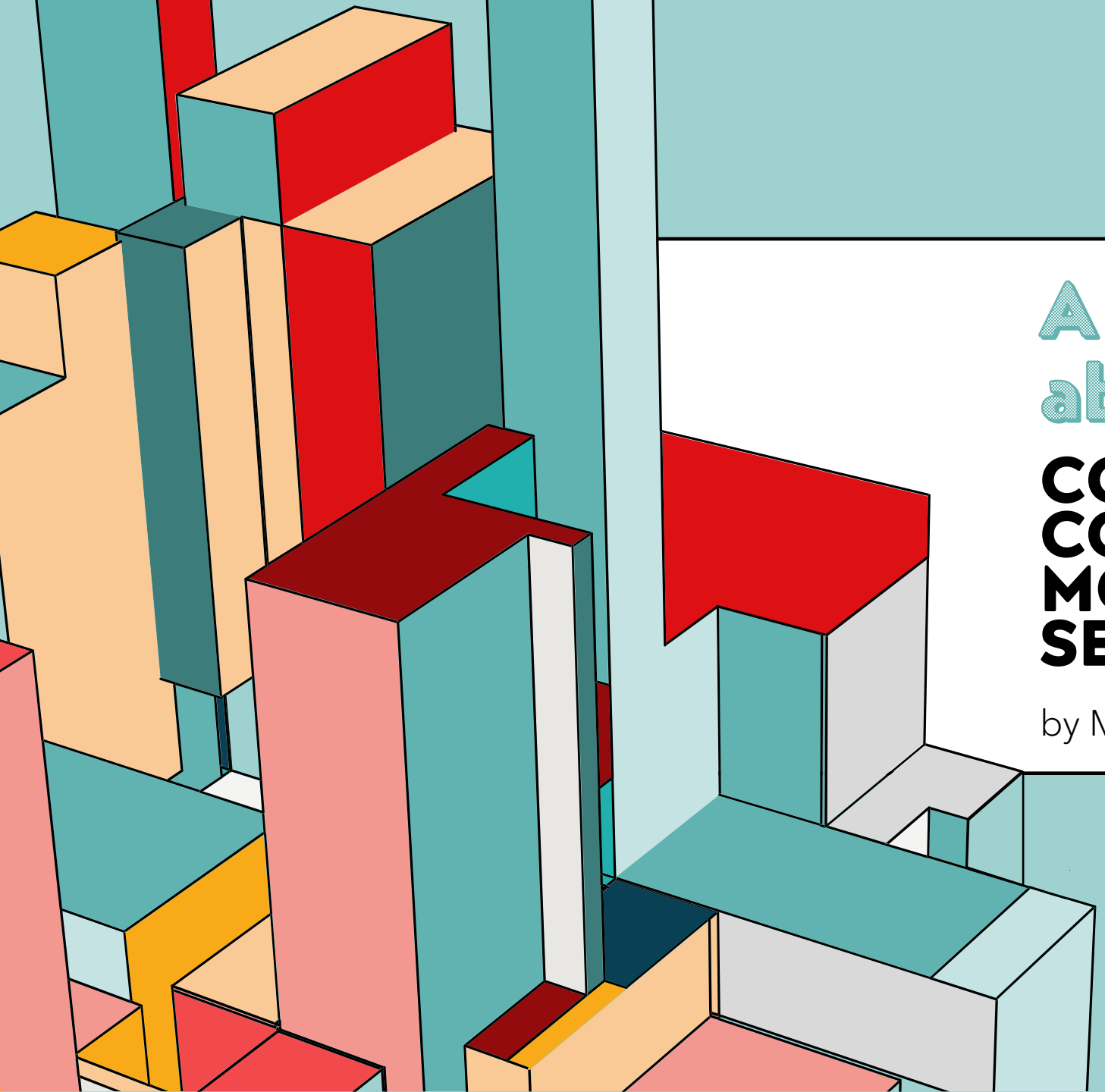

A blockchain pitch about:

COMMUNITY-DRIVEN CONTENT MODERATION SERVICE

by Marcus Wong Qi

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PROBLEM STATEMENT

The client's current content moderation process uses outsourced reviewers and bots to flag violative content on their social media platform.

There is an **increased volume** of user-uploaded content, which are not getting reviewed and actioned quickly. Due to **lack of capacity**, the number of reviewers accountable for each content has also decreased. This leads to poor review quality because of the majority vote of lesser reviewers.

OPPORTUNITY

Smart contracts can leverage on the efforts of a community via a community-driven content moderation service:

1. User on social media can identify and flag violative content via a form
2. The service generates the form details into a voting page for the entire user base
3. Users vote on whether they reviewed the content to be violative or not.
4. Based on the voting results or a quorum is achieved, the outcome is saved as a unique ID via NFT
5. Users who vote on the correct majority answer can claim cryptocurrency as reward
6. Client receives the NFT and its information for their own use cases; analysis and insights generation, machine learning to improve bots.

POTENTIAL IMPACT

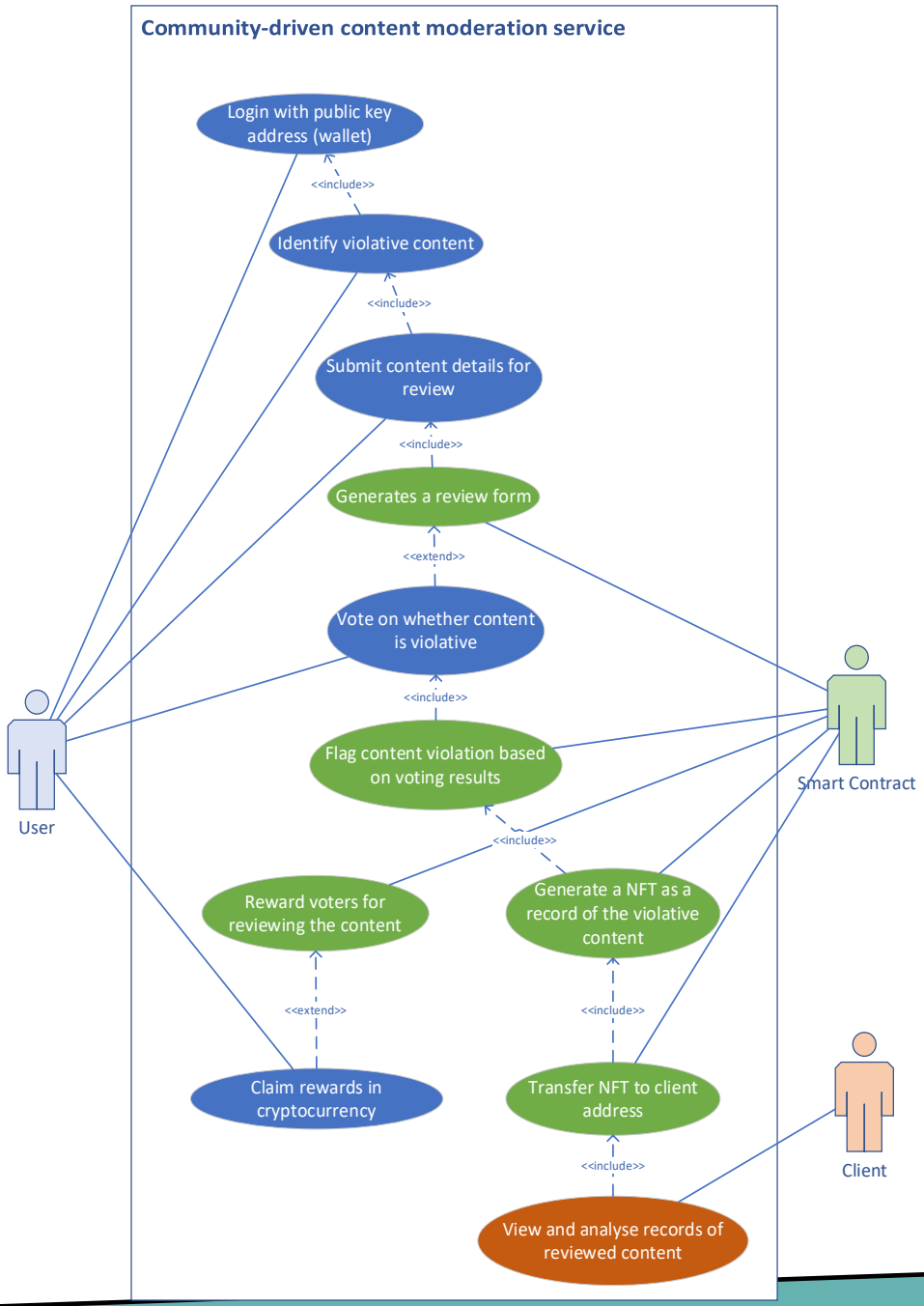
Client enjoys a more **holistic** content moderation service via the outputs of an entire community over several reviewers

The higher capacity of workforce enables more **productivity** and reduces **TAT** on getting content reviewed

Data storage via IPFS is **cost-effective** and immutable

CHALLENGES

IPFS storage is public, and any party can access the data. This can be resolved by encrypting the data with Ethereum's ECDSA cryptography before saving.



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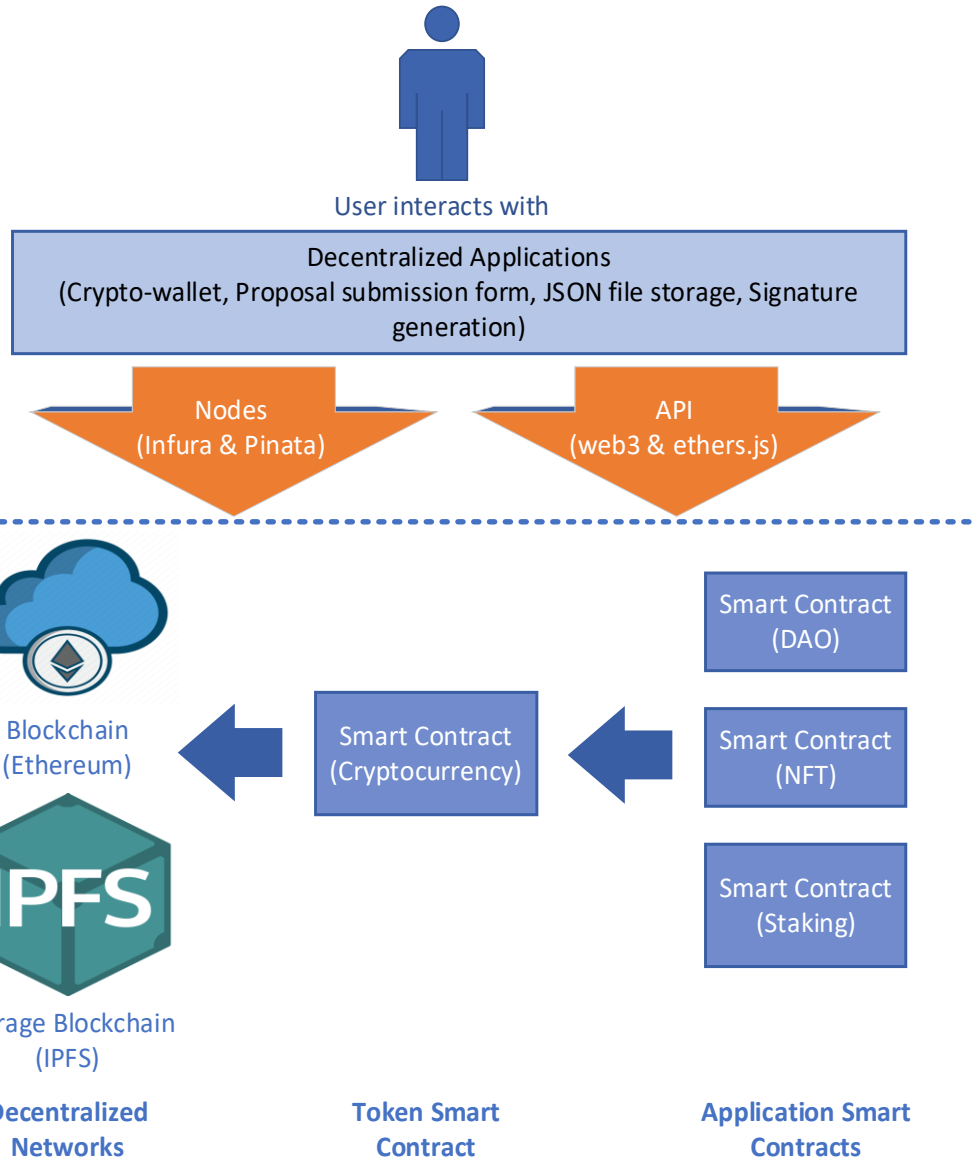
Technical Architecture:

Community-driven Content Moderation service



DECENTRALIZED APPLICATIONS AKA 'dApps'

User connects to their **crypto-wallet** with MetaMask, which holds their public key.
The public key is crucial for the user to execute transactions, such as submitting proposal details and storing details in JSON file.
These functions are developed in **JavaScript**, where Infura **node** is used to retrieve transaction data and Pinata node is used for saving JSON files on IPFS.

NODES AND JAVASCRIPT API

web3 and **ethers.js API calls** are imported to use various Ethereum methods.
Both transactions cost zero gas fee because these are off-chain transactions via signing message.

SMART CONTRACTS

Smart contracts are executable programs that automatically run a function when predetermined conditions are met:

- Cryptocurrency – Users receive a redeem code (**signature**), which the smart contract decrypts into parameters to execute the cryptocurrency reward for the specific user. Specific parameters, such as recipient address, coin amount, and a unique ID are configurable to keep track of the redeemed code.
- NFT – Each completed proposal is saved as an NFT. The metadata is stored off-chain on IPFS as directly storing large data on Ethereum is costly.
  - We can give NFT management an efficiency improvement by introducing the **ERC-721A standard**. This standard makes bulk minting of NFT efficient but more importantly, saves cost by up to **1000%**. The gas fee spent for minting 1 NFT from a traditional contract is equivalent to minting **100 NFT per transaction**.
  - Hence, multiple completed reviews can remain stored as JSON files until a scheduled transaction.
- DAO – Facilitates **off-chain voting**, where voters and proposal results are stored as signed messages instead of an immediate gas-incurring transaction to the Ethereum blockchain.
- Staking – Users can opt to stake their coins or NFT, while earning passive rewards. This helps reduce inflation of our coin price. Regardless, a **liquidity pool** of the coin and Ethereum coin is what gives the coin its value.

DECENTRALIZED NETWORKS

The **Ethereum** blockchain is used for logical smart contracts, such as cryptocurrency, NFT, staking, and DAO. Whereas the **IPFS** is a storage blockchain.

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THANK YOU

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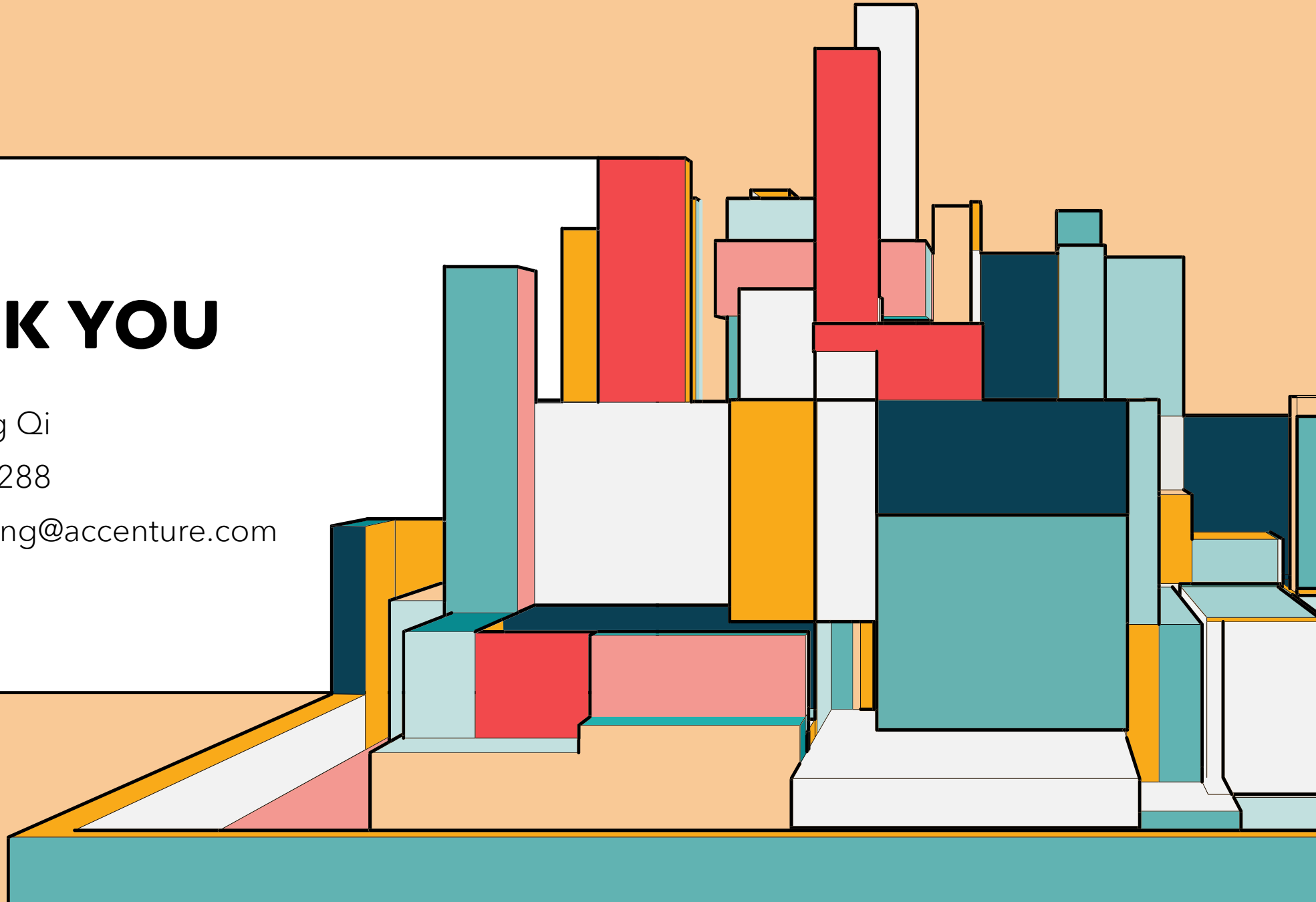

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Efficiency using off-chain features

OFF-CHAIN

- Ethereum uses ECDSA cryptography
- Encryption by signing with private key
- A digital signature is generated
- Zero cost & faster

Multi-party approval

Public-private keys creation

Off-chain components

Message

Digital signature

Untampered data transfer

Governance

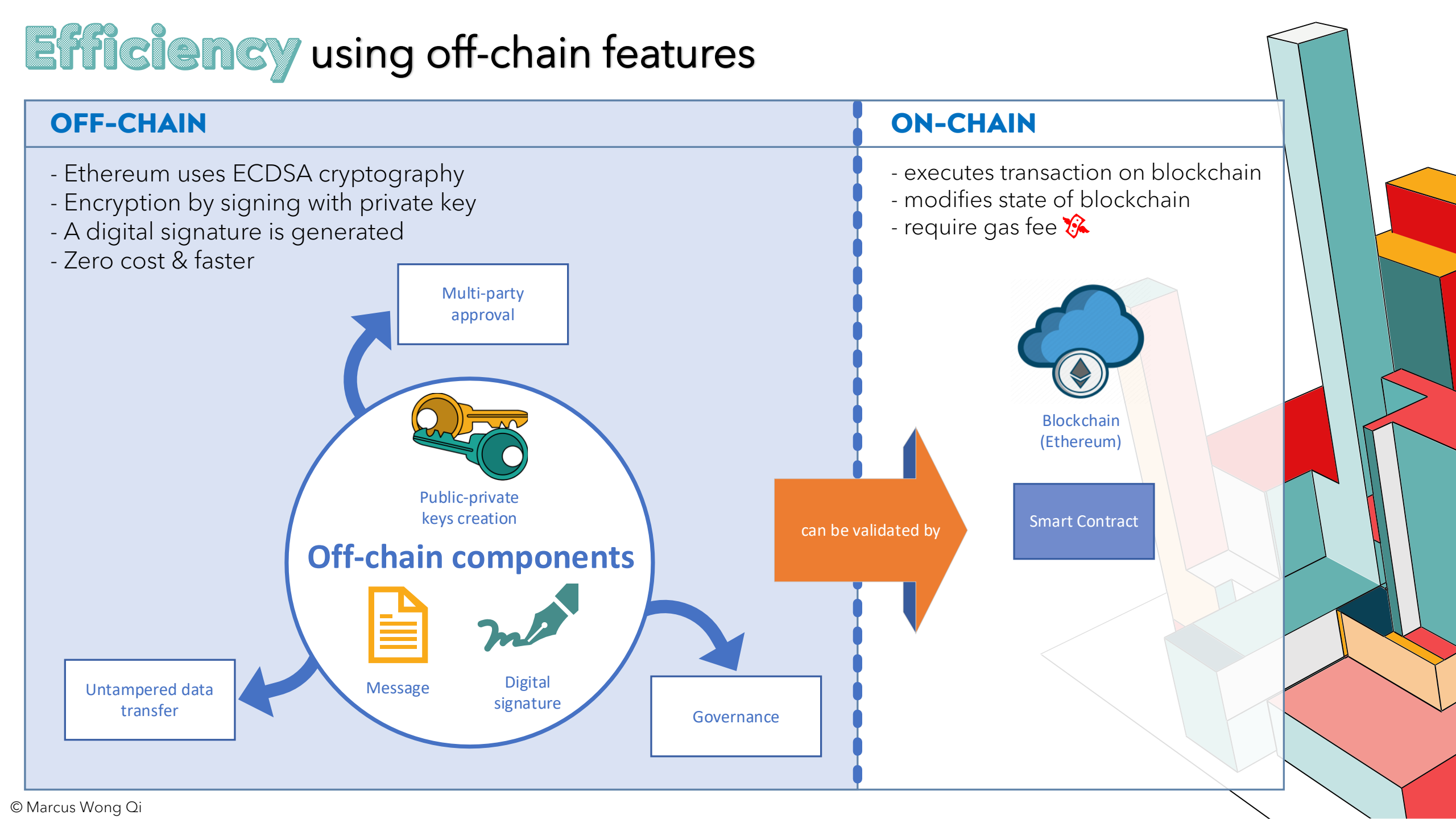
can be validated by

ON-CHAIN

- executes transaction on blockchain
- modifies state of blockchain
- require gas fee

Blockchain (Ethereum)

Smart Contract



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