



SilentProof at Görbraurei: On-Chain Proof of Liveliness

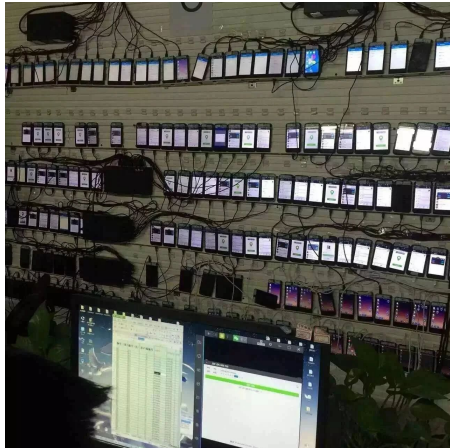
Multi-Modal Authentication with Distributed Proofs for dApps





Problem

Bot farms challenge the economics of tokenized assets and people's trust in crypto.



83 percent of businesses surveyed experienced **at least one bot attack** within the past year [1].

Out of that, **39 percent** reporting a revenue **loss greater than 10 percent**.

[1] <https://www.scmagazine.com/brief/botnet/83-of-companies-hit-by-bot-attack-in-last-year>



Problem

Bot farms challenge the economics of tokenized assets

1

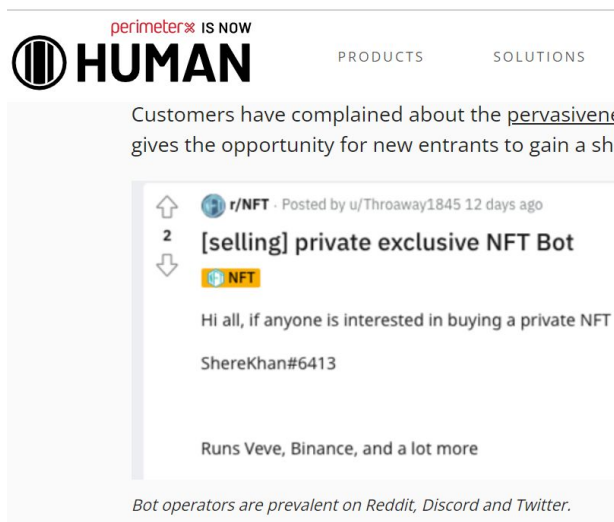
Scalper Bot

2

Spoofers Bot

3

Spinner Bot



perimeter% IS NOW

HUMAN PRODUCTS SOLUTIONS

Customers have complained about the pervasiveness gives the opportunity for new entrants to gain a share

↑ 2 ↓

r/NFT · Posted by u/Throaway1845 12 days ago

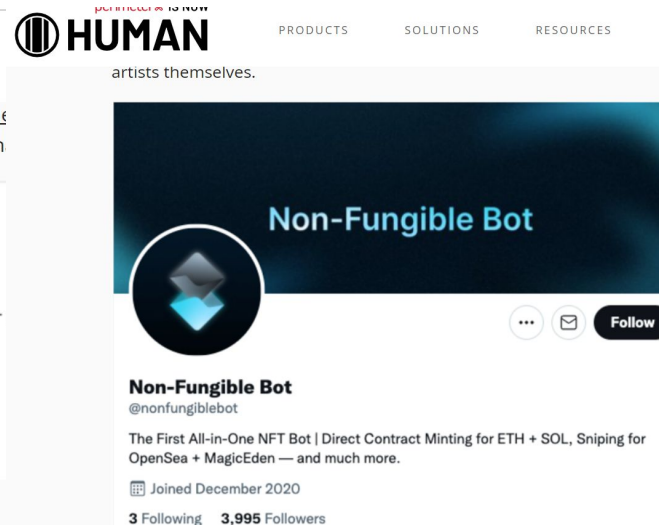
[selling] private exclusive NFT Bot

Hi all, if anyone is interested in buying a private NFT

ShereKhan#6413

Runs Veve, Binance, and a lot more

Bot operators are prevalent on Reddit, Discord and Twitter.



HUMAN PRODUCTS SOLUTIONS RESOURCES

artists themselves.

Non-Fungible Bot

Non-Fungible Bot

@nonfungiblebot

The First All-in-One NFT Bot | Direct Contract Minting for ETH + SOL, Sniping for OpenSea + MagicEden — and much more.

Joined December 2020

3 Following 3,995 Followers



Solution

**Proving humanity and individuality with Proofs of
Liveliness**



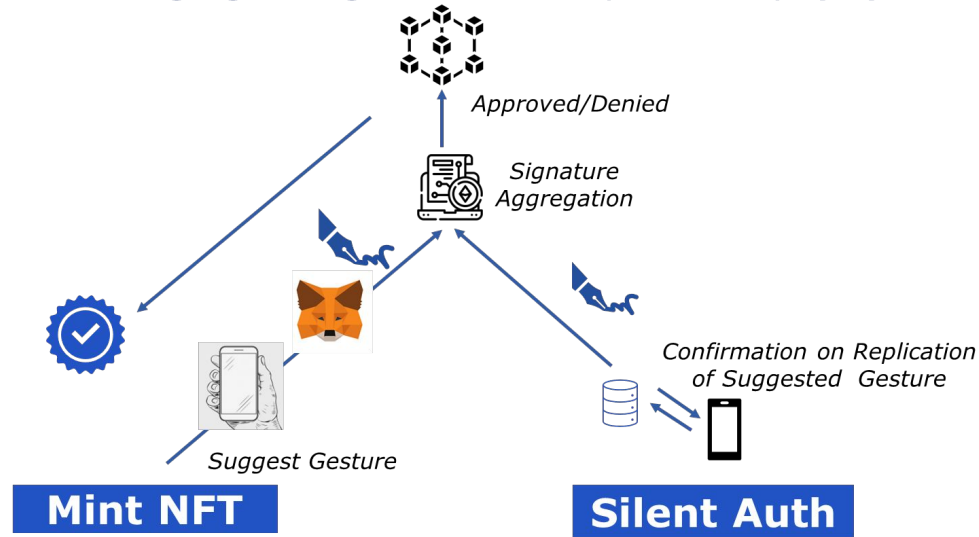
Solution

Distributed Cyber-Physical Proofs of Liveliness (MPC + Sensing on Wallet)

- 1 • **Proof of Liveliness** through randomised activity on registered token/smartphone,
- Heterogeneous Data Fusion on registered phone wallet.
- 2 Proofs with **distributed Signature** between browser and registered phone wallet.
- 3 Proof of **Proximity** between web and phone wallet.

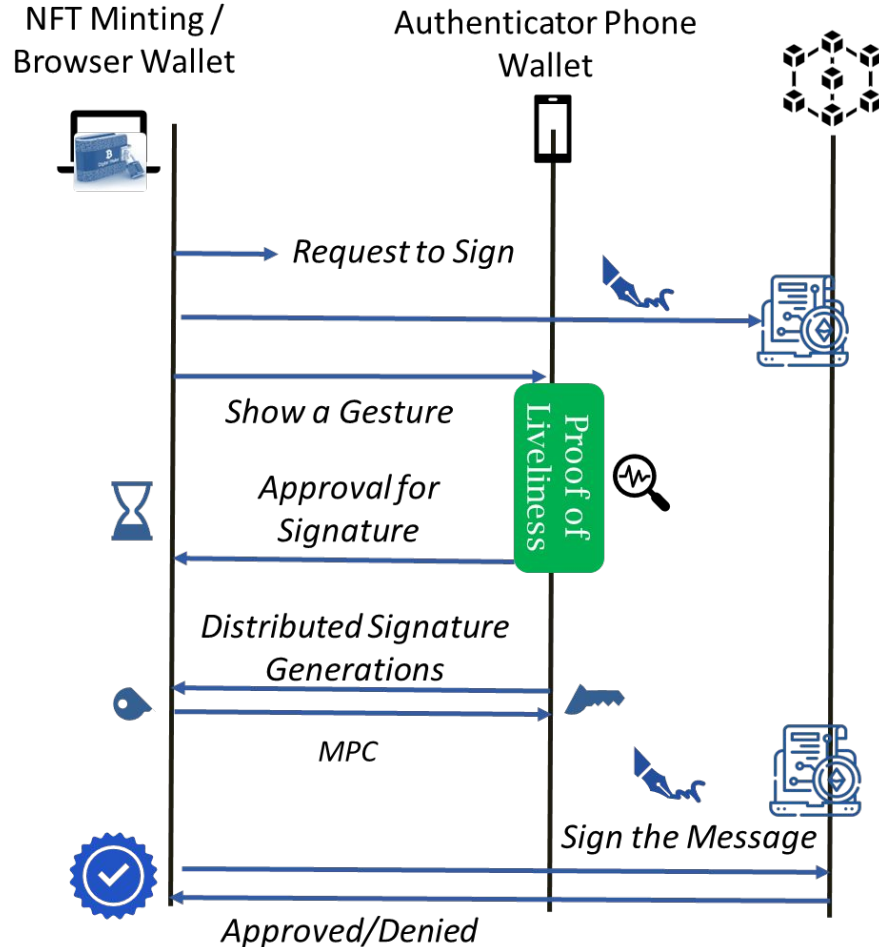
Architecture

Replicate Gesture Proof of Liveliness



User Flow

- 01 | Initiate transaction/Minting
- 02 | Show a **GIF** on the dApp; user to **Replicate the action** using registered Phone, with the wallet
- 03 | If user replicates the gesture, **Proof of Liveliness** is considered “passed”
- 04 | Distributed Signature is exchanged between dApp and Phone Wallet
- 05 | Smart Contract verifies the proof of signatures before minting NFTs.

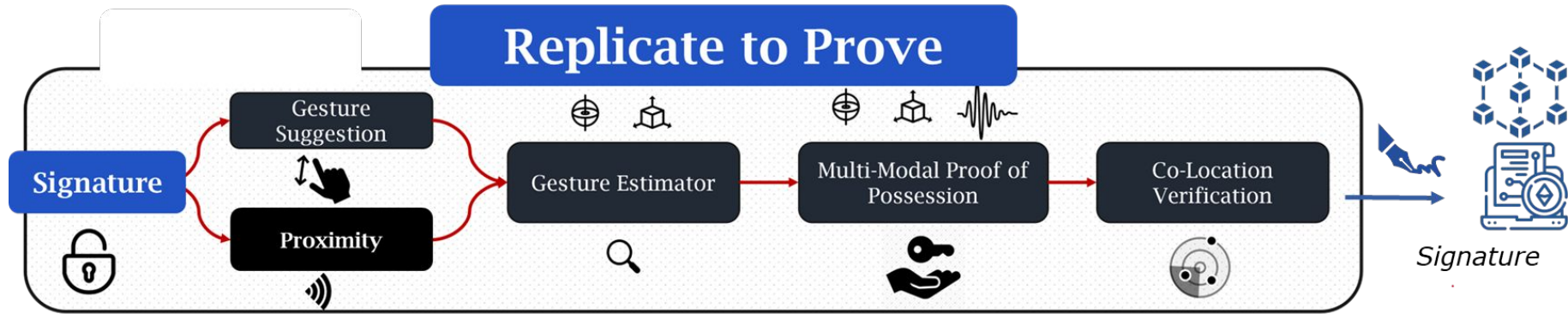




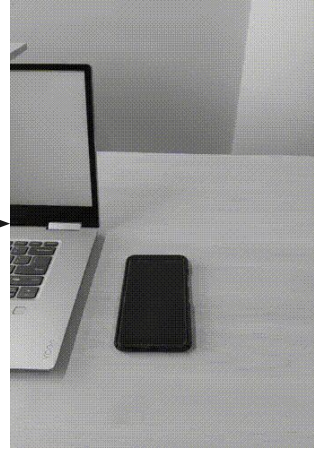
A. Replicate Action to Prove Liveliness

- **Randomised Gesture** is suggested to the user.
- **Phone Wallet** receives a push notification which triggers a multi-modal sensors based activity classifier.
- If **correct gesture** is performed with the phone, **the signature is triggered** and sent to the Smart Contract.

Replicate Action to Prove Liveliness



The **Signature** is sent to the smart-contract only if the gesture is correctly replicated on the phone by a human user.



A **verified NFT** is minted post the Proof of Liveliness.



Summary

- Showcase website (NFT brewery): <https://goerbraurei.silent.sg/>
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Thank you.

