20th July – 28th July 2022

WEB3 SANDBOX
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Morpheus Labs

#Hackathon2022 /#Web3SandBox

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Introduction

Blockchain

What is it good for?

Bitcoin lacks smart contracts.

It is primarily a settlement and payment platform.

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Introduction

Smart contracts make blockchain capable of anything. *Right?*

World computer
Trustless interactions
Decentralized finance
Complex decentralized business processes
Etc....

Capturing the intentions of two untrusting parties in code to be executed remorselessly without fear or favor is a powerful idea.

But is it realistic
to think that people can:

Express their intentions fully and clearly?

Verify the code reflects those intentions?

Audit the code for bugs and exploits?

In practice users rely on smart contract audits, and the skill and good intentions of developers.

Many implementations do not keep a contract's state in the ledger.

While the state can be calculated by replaying all the relevant transactions, the state is often maintained by nodes in off-ledger data structures.

In effect, smart contract must rest on these trust layers.

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Smart Contracts

In reality, smart contracts have a mixed record:

DAO
June 17, 2016: 3.6M ETH worth $79.6M, now about $6B

Parity
July 19, 2017: 150,000 ETH worth $30M, now $259M

Estimated losses in 2021: $680M
Exploring Security Practices of Smart Contract Developers, T Sharma, Z Zhou,
A Miller, Y Wang, arXiv preprint arXiv:2204.11193, 2022 – arxiv.org

Estimated losses in the first half of 2022: $1.25B
Defiyield rekt database

Executing smart contracts on a world computer,
with thousands of machines, is resource intensive.

Thus, smart contracts are constrained by issues of
cost, scale, and security.

This is not at all to say that smart contracts are useless.

However, they may be most suited to simple,
easy to understand, common, operations.

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Geeq's solution:

Blockchain creates secure, auditable, verifiable, and immutable records.

We see blockchain as a new kind of data service.

The challenge is to create a sufficient richness of transaction and record types to serve the information backbone of business processes, while minimizing complexity and cost.

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Solution

Geeq specifies a small set of records to keep track of all relevant state data in a validation layer ledger.

Geeq transactions allow the following on the base layer without smart contracts:

- Normal coin transfers
- MultiSig transactions
- Atomic transfers
- Notary and attestation services
- NFTs
- Much more . . .

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Geeq Data

Notary transactions include three key elements:

Hash Reference	Hash that could refer to a written contract, a receipt, IoT telemetry, a transfer of custody, access granted to database or a file, or just about anything else.
Metadata Elements	Unstructured data that can be used for indexing, to display information publicly, to hold encrypted details, and so on.
Signature	Proving that the data above was attested to by the transaction originator.

To see a demo go to: **certify.geeqdata.io**

NFTs

Users can create NFT Mint Accounts that include:

Public Key of Issuer	A public key used to sign the Minted NFTs, attesting to their authenticity.
Transaction Fee	A fee charged to users each time a NFT is transacted. This creates a revenue model.
Account Number	A coin account number where issuer transaction fees are automatically deposited.

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Using a Mint creates two associated account records:

An immutable NFT Record that includes a hash of the tokenized object (or its description) and metadata that can be used to describe or index the NFT.

This NFT record is created in a separate application layer ledger.

and:

A validation layer coin account that includes the application layer Identifying Record Number (IRN) of the associated NFT record it controls, and metadata.

This metadata might be a user's ID in a gaming application (e.g. User #8 controls magic sword NFT #16)

or an account or customer number in a financial application (e.g. Client #19, has NFTs representing 100 shares of IBM stock), etc.

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Examples + Use Cases

An NFT's IRN can be transferred to the control of another coin record, and the metadata can be edited to reflect the new owner's ID, if required.

By inspecting the validation layer ledger, the current ownership of all NFTs can be seen through their NFT IRN pointers.

By inspecting the application layer ledger, all NFTs, their creators, and their descriptions, can be seen.

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Examples + Use Cases

Atomic transfers

Geeq builds in Hash Time Locked Account Records on the base layer without requiring smart contracts.

Coins and/or NFTs can be locked into records that transfer to a predesignated receiving account, if the correct pre-image is presented in an unlock transaction, and that otherwise reverts to the originating account at a specified block height.

Multi-lateral and cross-chain atomic transfers are possible.

Geeq is developing both permissioned and public blockchains for deployment in a multichain ecosystem.

Verified and immutable data produced by anonymous, or permissioned, sources is appended to these chains and used to update the ledgers.

APIs then allow off-chain application software to access, ingest, add to, and use, ledger data as an independent data service.

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Conclusion

Please have a look at our website for details about:

Cost
(on the scale of 0.01¢ per transaction)

Scalability
(on the order of 1000 TPS, on a single chain instance in a Multichain ecosystem)

Security
(Proof of Honesty which requires only a single honest node to ensure safety)

geeq.io

Conclusion

Geeq focuses on what blockchain is best at:

Transactions that create secure, immutable records without the need for trust.

This data layer then allows you to do what you do best:

Build mutable, complex, and ever evolving, business applications, that create and ingest these records to leverage the trustless security of Geeq Blockchain.

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Conclusion

Many thanks for your attention

Thank you to Morpheus Labs and Blockchain
Association Singapore.

And best of luck to the Hackathon participants.

John Conley
Co-Founder, Geeq
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