



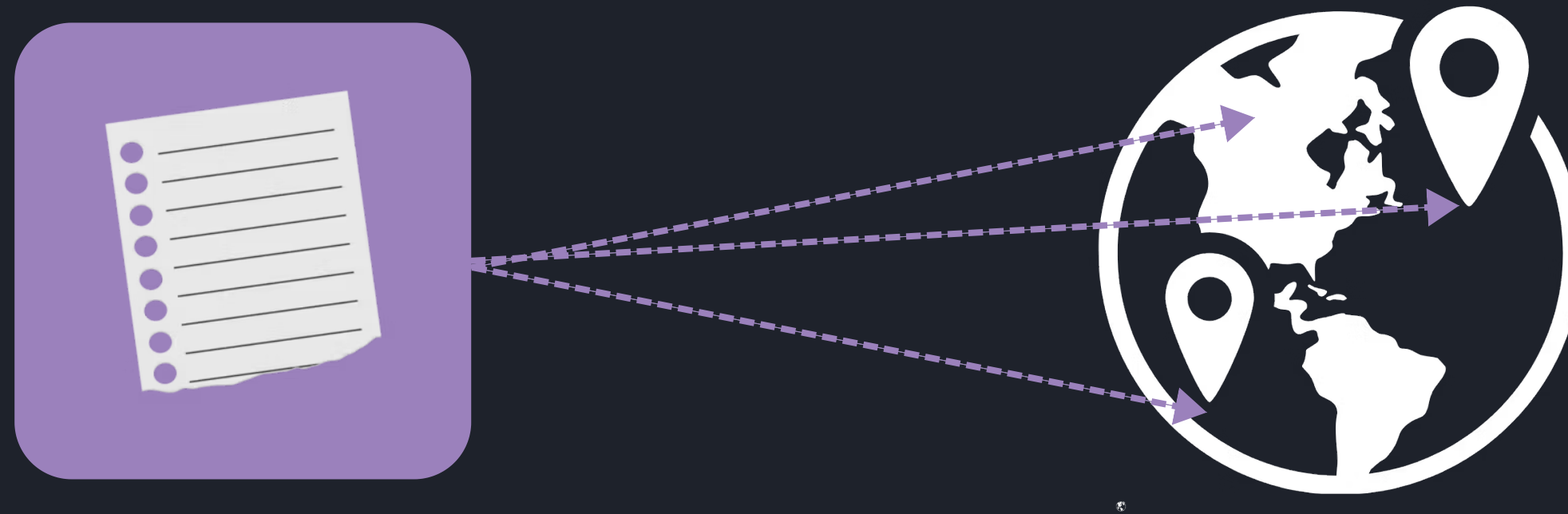
TUM  
Blockchain  
Club

# GEOTRUST : Prove your Discovery

HEDERA X BSA HACKATHON @ EPFL



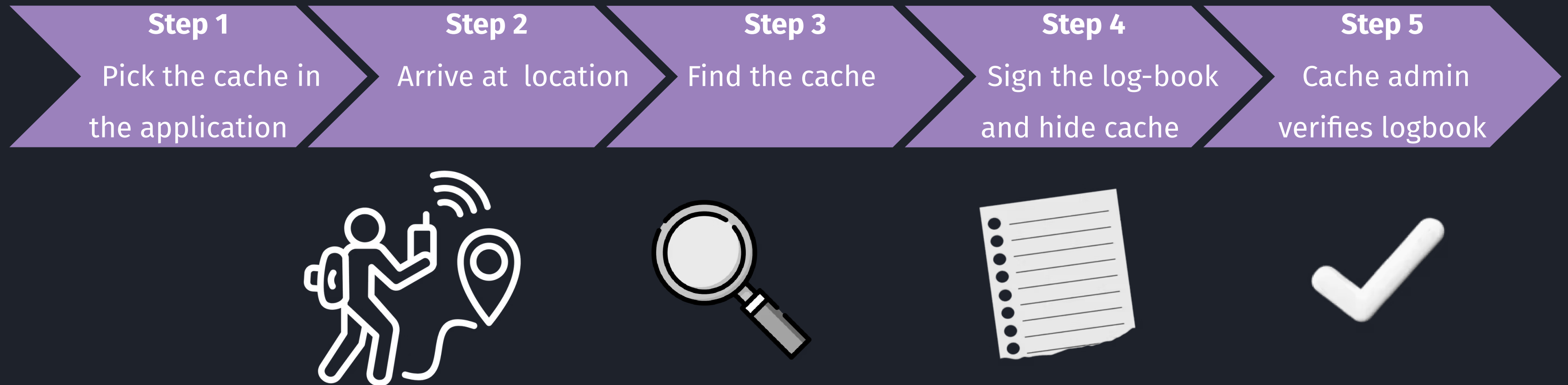
# What is a geocache



HIDDEN IN A PUBLIC PLACE (PARKS, FOREST, HIKE TRAILS, ...)

CONTAINS SIGNATURE OF PREVIOUS FINDERS

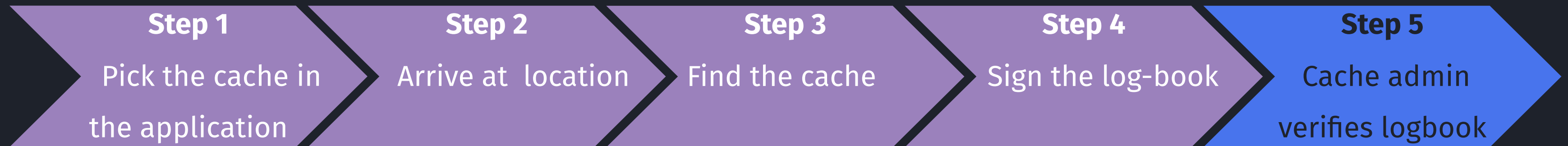
# Vanilla GeoCaching



Verification of cache logging in GeoCaching.



# Vanilla GeoCaching



WE KNOW HOW TO DO IT SMARTER, LET'S INTRODUCE TOKENS...





Hedera™  
Hashgraph

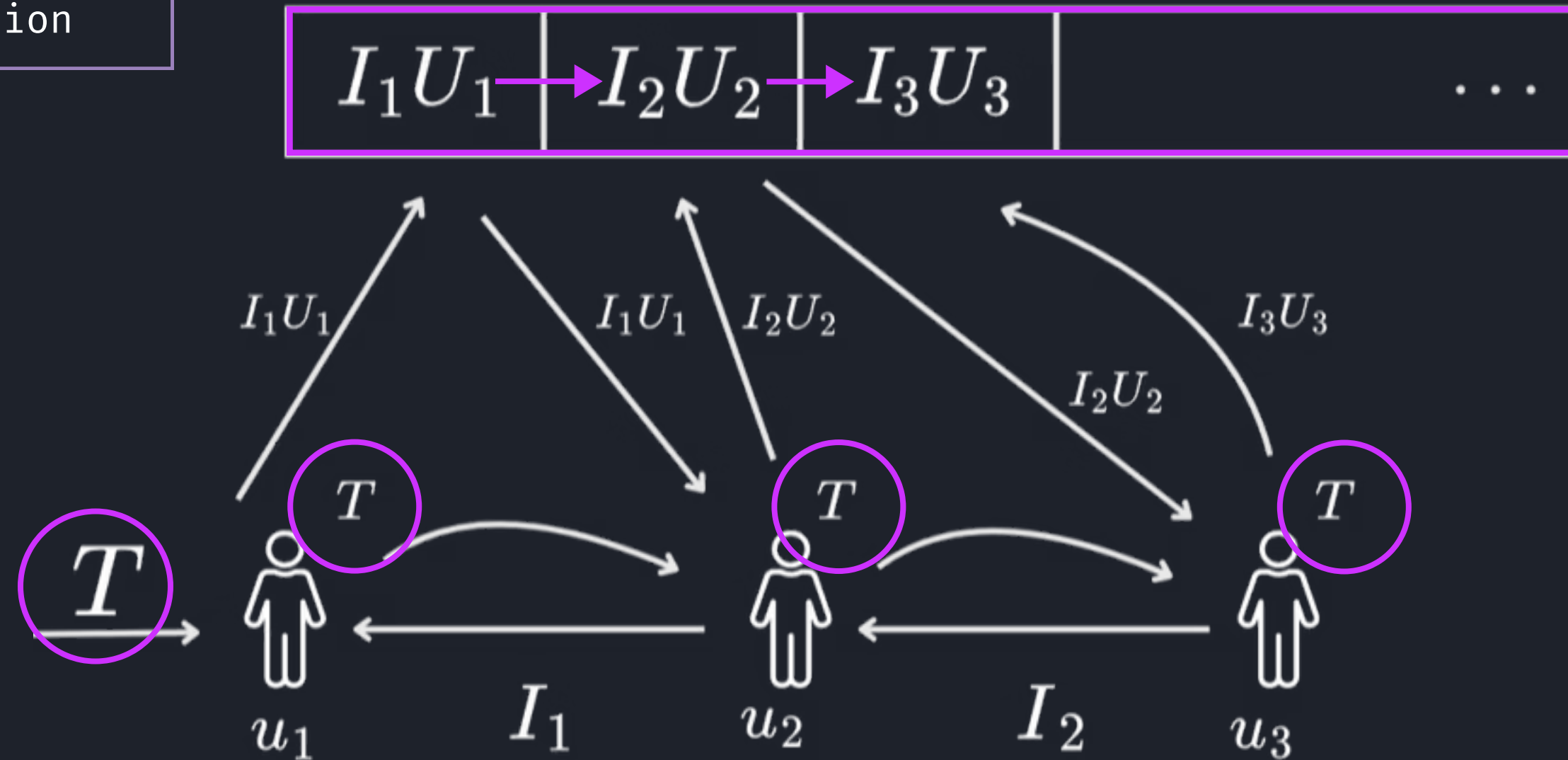
# Our solution via Hedera

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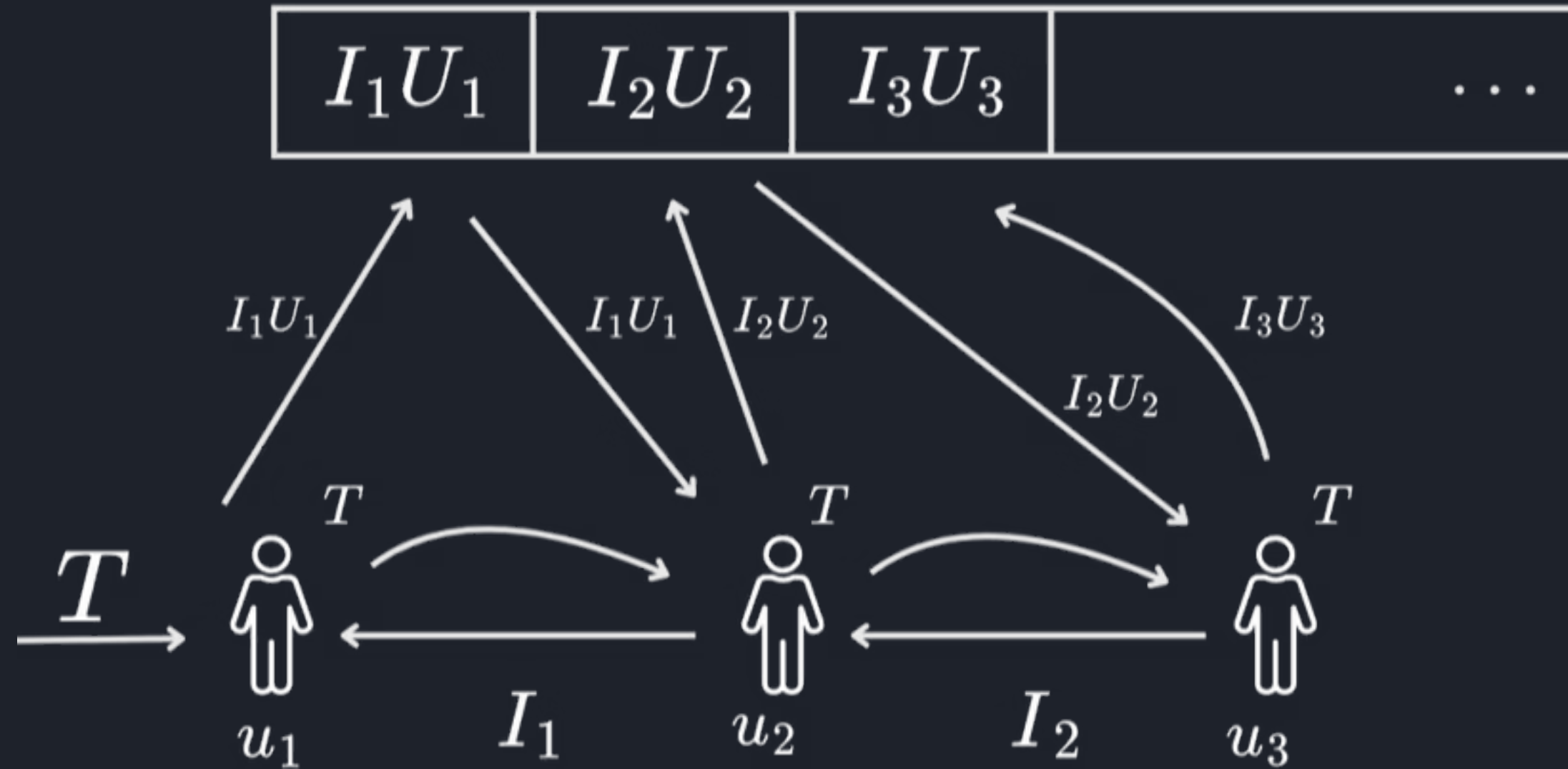
The information is updated by the  
each user that finds the cache

Cache contains a  
secret information



Token grants the user to change the information  
**once** and log the cache in application





NO SINGLE VERIFIER - THE VERIFICATION IS P2P

$$I_{j+1} = \text{Hash}(I_j, \text{user id})$$

HARD TO MAKE FAKE VERIFICATION

NO NEED TO PROVE GEOLOCATION





# Use of Hedera

01

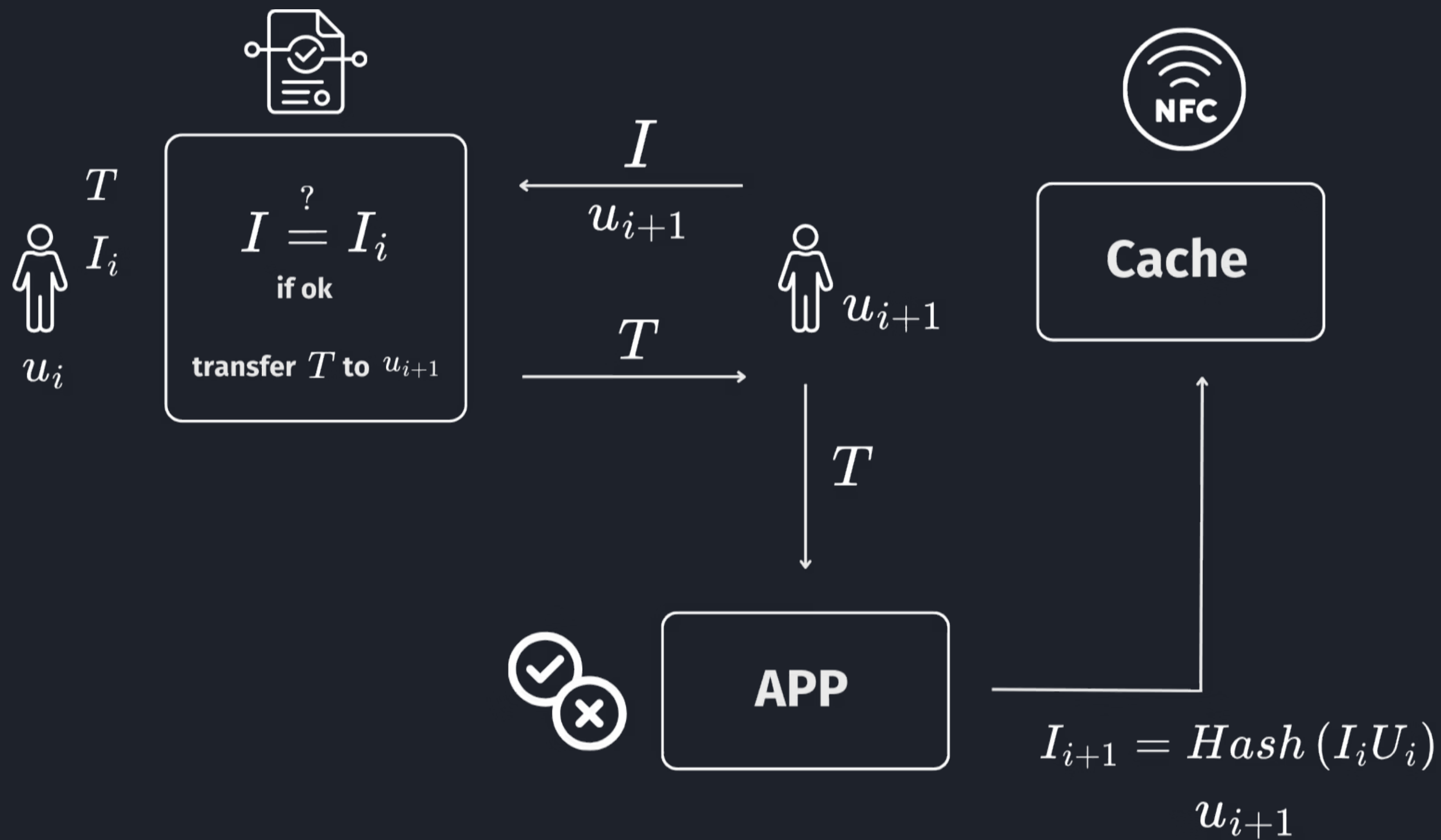
## HEDERA TOKEN SERVICE

1. ~~We create a unique token~~ token associated with each cache
2. ~~that gets passed~~ transfer between the users who find cache.
3. ~~Blockchain~~ ~~companies~~ write to the cache
- lets user mark the cache as found

02

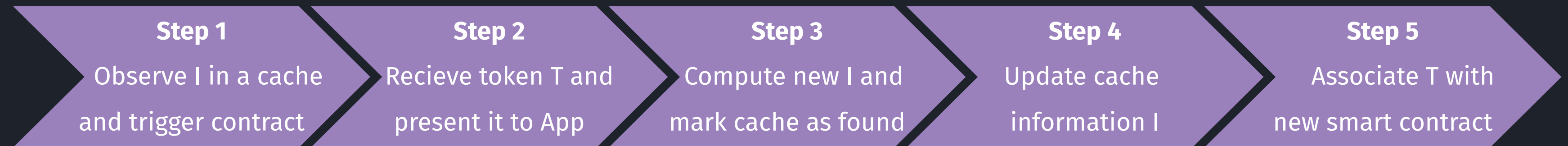
## HEDERA SMART CONTRACT SERVICE

1. ~~If the correct completion~~ information is presented to the
2. ~~smart contract~~ token is transferred
3. **Only contract has right to transact the token** to prevent malicious users
- template of the contract is public



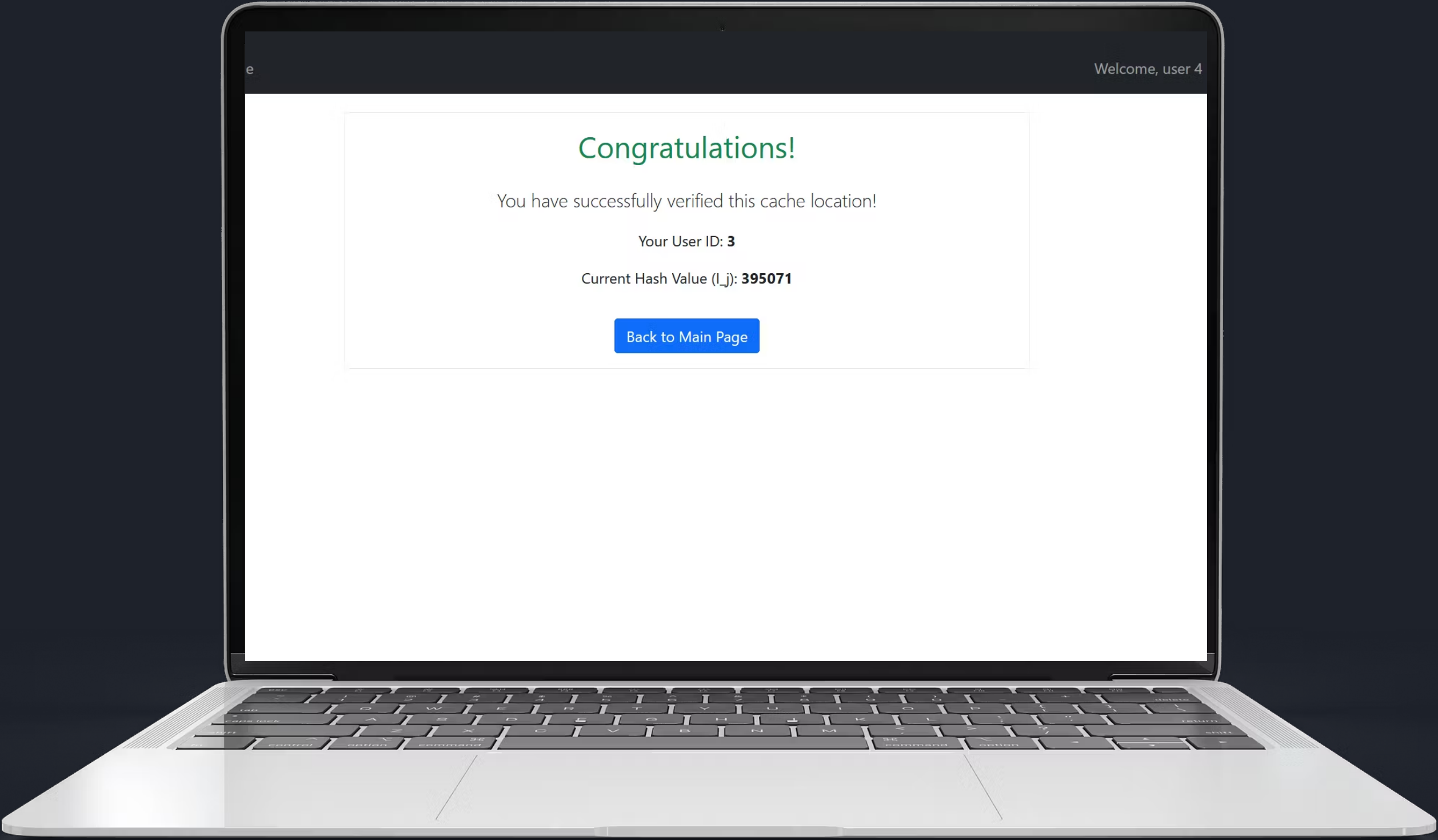
# Our solution

- Application UI is a clone of GeoCache
- The difference is in the backend



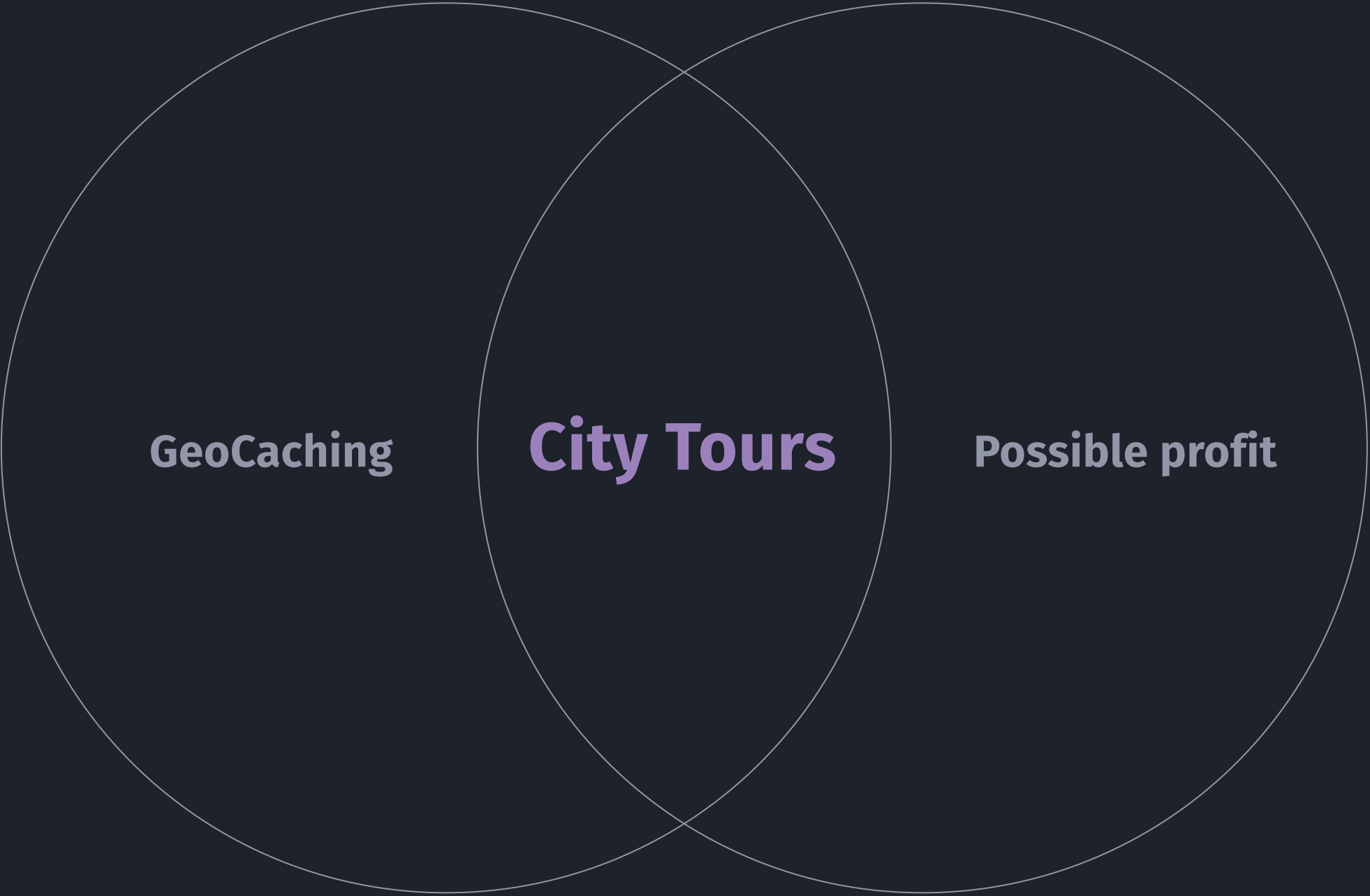
- Now, the current user is responsible for further verification
- To prevent attacks, implement time-lock after n incorrect tries

# GEOTRUST at a glance





# Possible Business Model



CACHES PLACED AT POINTS OF INTEREST

TOURISTS ARE TASKED TO FIND THEM

SPONSORED BY CITY OR PAYED BY USER

# Our Core Team



Alireza



Ben



Yehor



David



# Q&A

WHAT WOULD YOU LIKE TO KNOW ABOUT US?



<https://www.linkedin.com/company/tum-blockchain-club>



<https://twitter.com/BlockchainTum>



<https://www.instagram.com/tumblockchain/>



<https://github.com/DAVIDshenghuei/Cryptocaching-Hedera>







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