

SkyDB Hackathon 2020

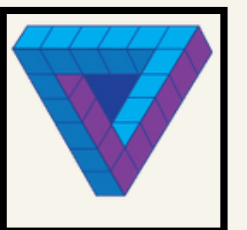
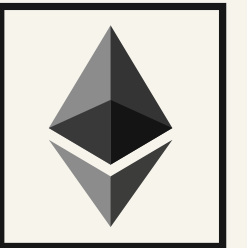
PowerLoom

Audit Protocol

A VERIFIABLE AUDIT VOUCHING SOLUTION POWERED BY ETHEREUM AND SIA + SKYDB

HACKED TOGETHER BY

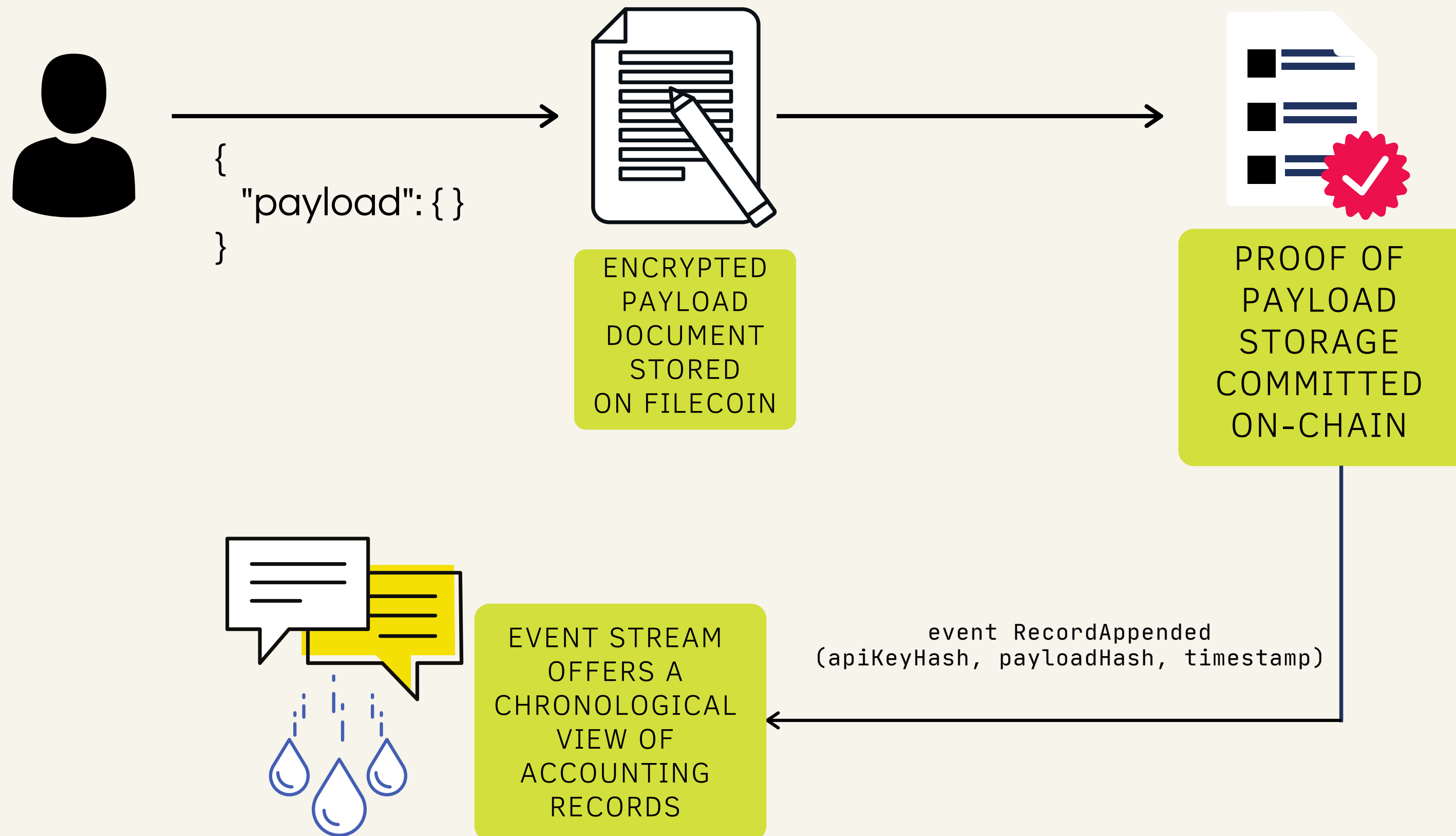
SWAROOP HEGDE
ANOMIT GHOSH
RAGHAVENDRA GALLEPPA



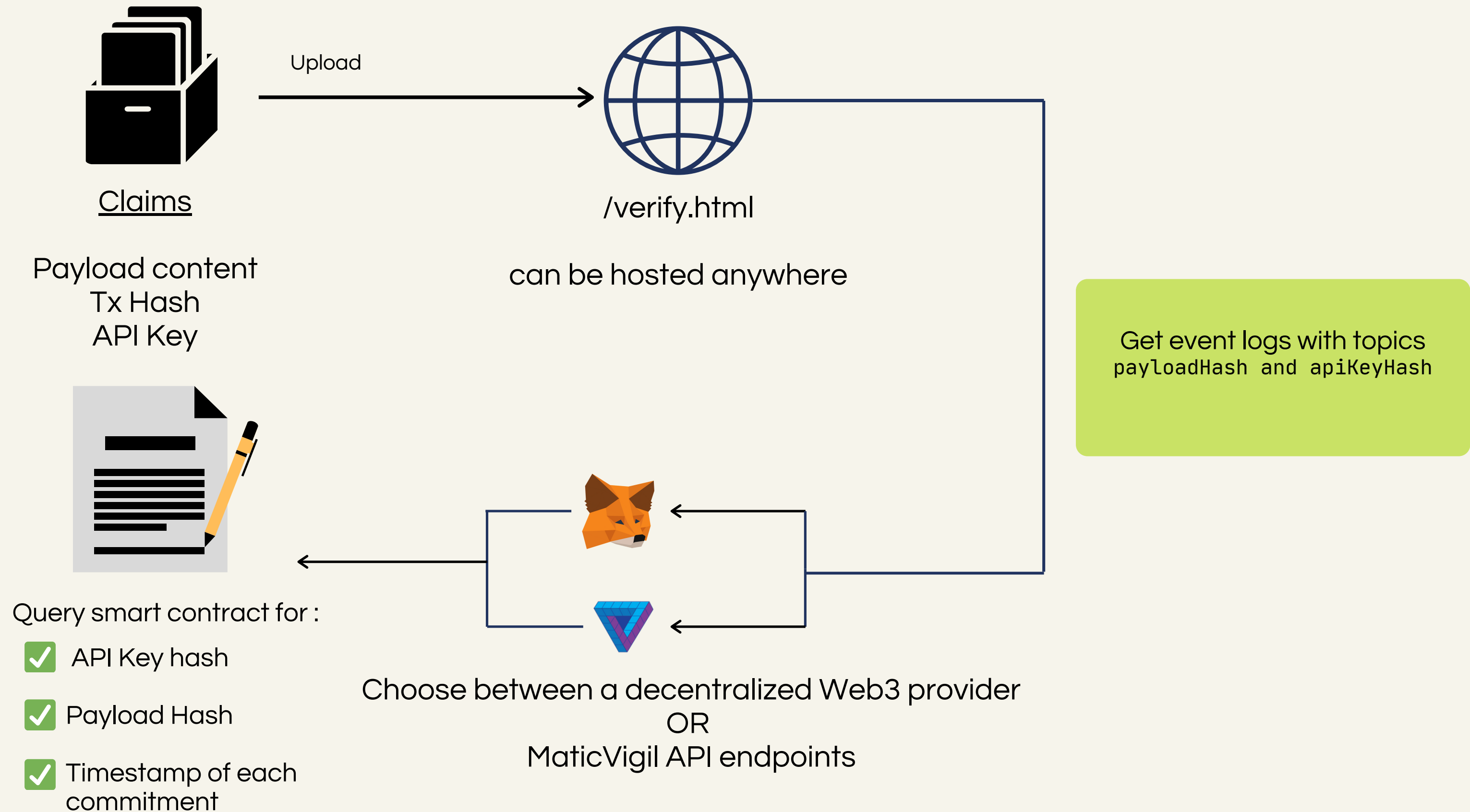
Under the hood

- Python backend
 - FastAPI server
 - In-house Python SDK for SkyDB (open sourced!)
 - Connected a remote Sia mainnet node for renting and registry.
- HTML5 frontend
- SkyDB to store metadata of payload and user info. Files are stored on Sia (not Skynet) via renter API due to the sensitive nature of data.
- BlockVigil API gateway on Matic Mainnet (Layer2 Chain)
 - Tie together the payload accounting and audit lifecycle with transactions, reads and event integrations
 - Storage commitment proofs persisted on Ethereum mainnet via Checkpoint Proofs committed by Matic

Accounting workflow



Vouching workflow



Future improvements

- Python backend
 - Replace blocking, synchronous code with async equivalents
 - Queue tiny payloads that won't be accepted until payload size matches minimum bound for piece size
 - Support verification of large chunk of payloads at once
- Speed up SkyDB calls
- Add support for Skynet for non-sensitive data.