

**CRYPTOSHIELD  
HACKATHON**

# IPFS BASED DECENTRALIZED CASE MANAGEMNET SYSTEM

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# THE PROBLEM

Traditional case management systems often struggle with

- Inefficiencies in data handling
- Lack of transparency
- Security vulnerabilities
- Various type of attacks are possible on database servers disrupting the confidentiality and integrity of the messages stored.





# OUR SOLUTION

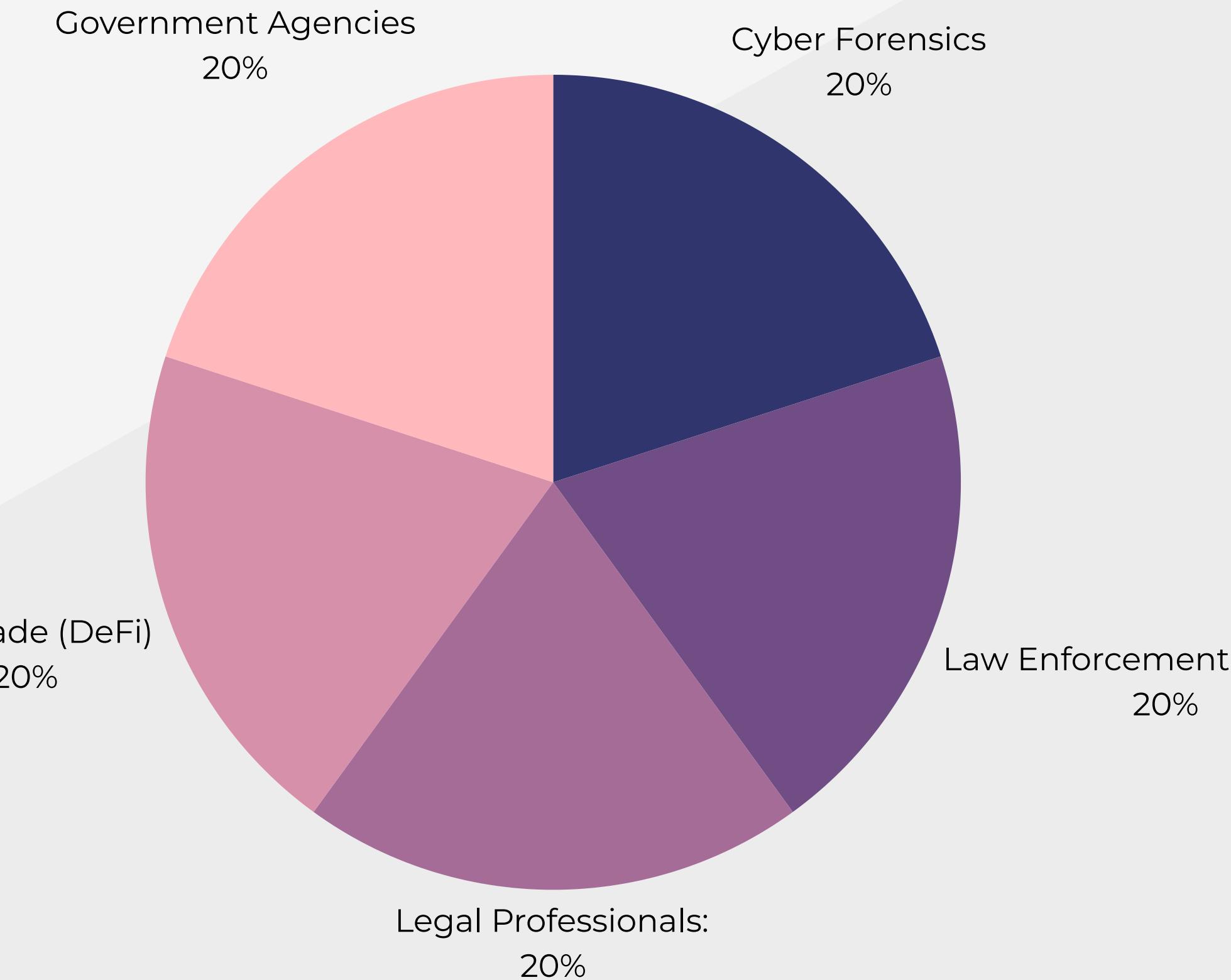
We propose using Etherlink, an EVM-compatible, non-custodial Layer 2 blockchain powered by Tezos Smart Rollup technology, to revolutionize cyber forensic case management systems. Etherlink provides a secure, transparent, and efficient platform for managing digital evidence and case data.

## **Key Features:**

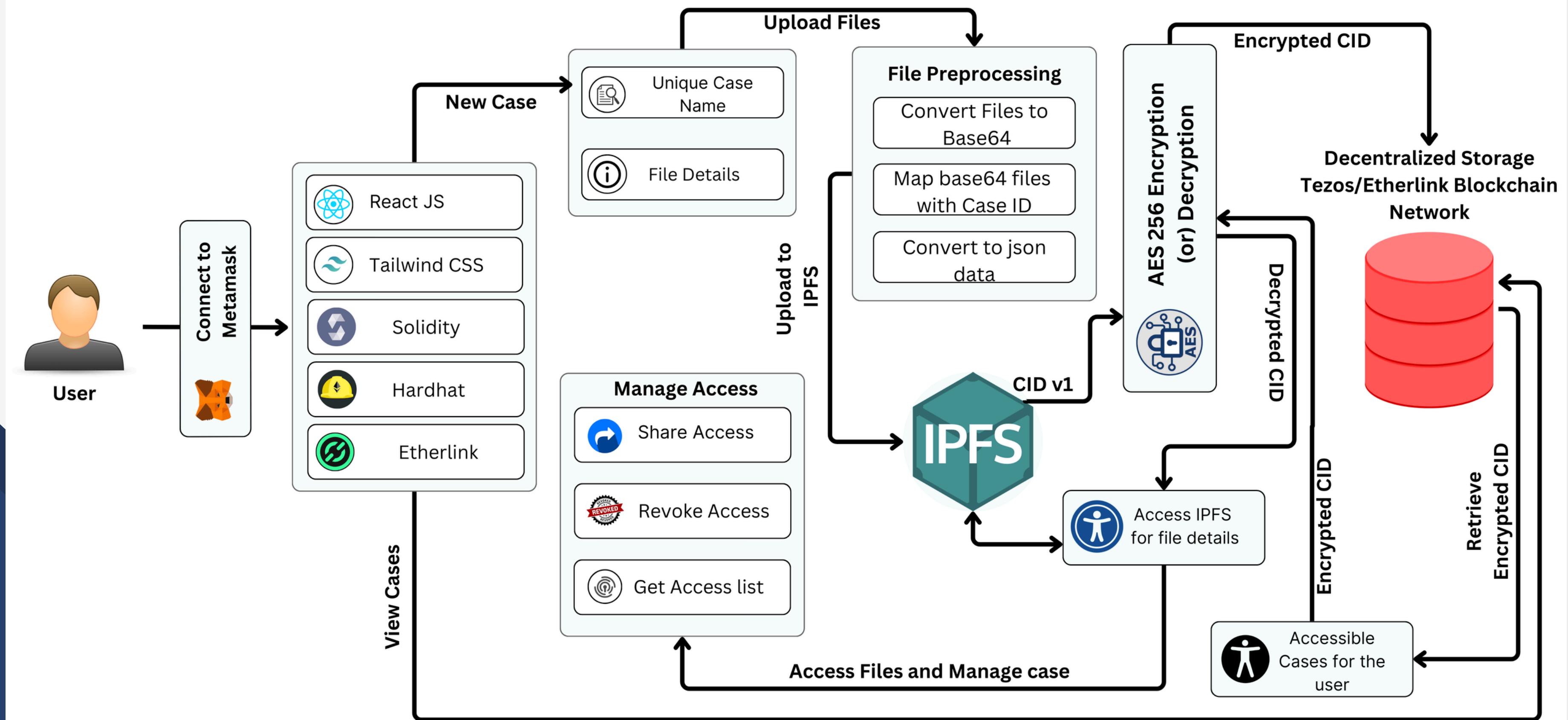
- Role based Access Control
- Ability to share and revoke access when needed
- Enhanced Security
- Efficient Data Management
- Transparency and Accountability
- Interoperability

## **TARGET AUDIENCE**

This solution is designed for professionals and organizations involved in cyber forensics, digital investigations, and legal processes that require robust case management systems.



# ARCHITECTURE DIAGRAM



# Blockchain Problem

- Storing the content on the blockchain would be expensive and inefficient.
- The InterPlanetary File System, or IPFS for short, is a peer-to-peer hypermedia protocol designed to make the web faster, safer, and more open.
- Every piece of data is cryptographically hashed, resulting in a safe, unique **content identifier**: CID.
- **IPFS content is de-duplicated**
- **Currently two CID versions: v0 and v1.**
  - > **The CID v0 is not flexible**
  - > **The CID v1 leverages several prefixes for maximum interoperability:**
  - > **CID v1 => Multibase + Multicodec + Multihash =>**
  - > **<base><codec><hash-function><hash-length><hash-digest>**

