WHISTLER

KNOW MORE

INTRODUCTION AND PROBLEM STATEMENT

Traditional whistleblowing systems face challenges like lack of anonymity, record tampering, and inadequate transparency.and accessible cryptocurrency solutions globally.

According to the Ethics & Compliance Initiative's **Global Business Ethics Survey**:

- 45% of employees witness misconduct annually.
- Only 63% report it due to fear of retaliation.

SOLUTION:
A BLOCKCHAIN-BASED WHISTLE BLOWER

Key Features:

- True anonymity through cryptographic proofs.
- Immutable records stored on Ethereum blockchain.
- Decentralized evidence storage using IPFS.
- Transparent report tracking with secure admin controls.

This system addresses challenges like **anonymity, tampering, and trust**.

TECHNICAL
ARCHITECTURE

Smart Contracts (Solidity):

- Report submission and management.
- Employee verification and admin controls.

Frontend (Next.js + Web3):

- User-friendly interface with MetaMask integration.

IPFS Integration:

- Decentralized evidence storage.

SECURITY FEATURES

Employee Verification:
- One-time hashes and Merkle tree verification.

Evidence Protection:
- Decentralized IPFS storage, with only hashes on-chain.

Admin Controls:
- Role-based access and multi-signature requirements.

CHALLENGES FACED

TECHNICAL CHALLENGES:

- Gas optimization for large organizations.
- IPFS integration and MetaMask connection issues.
- Smart contract upgradability.

DESIGN CHALLENGES:

- Balancing anonymity with accountability.
- Simplifying user experience.

Enhanced Features:

- Multi-language support and mobile app development.

Technical Improvements:

- Layer 2 scaling and advanced privacy.

Organizational Features:

- Custom workflows and API integrations.

FUTURE
WORK