



Pre-Summit Event-
India AI impact Summit



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TrustAI Ideathon 2026

On Safe and Trusted AI

Indian Institute of Information Technology (IIIT) Pune

Problem Statement:

Team Name:

Members:

Affiliation:



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Problem Statement



Digital Chain of Custody for Digital Evidence

- In modern investigations, most evidence exists in digital form—such as documents, images, videos, system logs, and electronic records. Unlike physical evidence, digital evidence is highly fragile: it can be copied, modified, or deleted easily, often without leaving visible traces.
- Maintaining the authenticity, integrity, and traceability of such evidence throughout its lifecycle is a major challenge for law enforcement agencies, forensic laboratories, and legal institutions.

A chain of custody is a documented and chronological record that shows:

- Who collected the evidence
- When and how it was handled
- Who accessed it
- When it was transferred
- Whether it remained unaltered

Traditional methods—manual logs, spreadsheets, and ad-hoc storage—are error-prone, hard to audit, and legally weak when applied to digital evidence. Any missing record, unauthorized access, or unexplained gap can lead to evidence being rejected in court.

Proposed Solution



- Develop a **Digital Chain of Custody (DCoC)** system to securely manage digital evidence.
- Generate **cryptographic hash (SHA-256)** at upload to ensure evidence integrity.
- Maintain **tamper-evident, immutable audit logs** for all actions.
- Enforce **role-based access control** to prevent unauthorized access.
- Track **custody transfers** with approval-based workflows.
- Generate **court-ready reports** for legal verification.

Significance & Benefits



Ensures authenticity and integrity of digital evidence through cryptographic verification



Reduces human error with automated logging and guided workflows



Improves accountability and transparency across all stakeholders



Maintains an unbroken, tamper-evident chain of custody



Strengthens legal admissibility of evidence in court



Reduces human error with automated logging and guided workflows



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Technical Solution



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Overall Architecture



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Approach



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Methodology Diagrams



Conclusion & Future Scope



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References



पुणे • प्रौद्योगिकी संस्थान •
भारतीय सूखना विद्यालय
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Rules and Guidelines



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1. Describe your solution best as possible, include diagrams and proper reference if used.
2. Submit as .pdf/ .pptx
3. Name file as <TeamName>_TrustAI
4. Max 10 slides
5. Omit this Slide form submission