FIR MANAGEMENT SYSTEM USING BLOCKCHAIN TECHNOLOGY

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OVERVIEW

- **Problem Statement**
- **Timeline**
- **Literature Survey**
- **Abstract (System Overview)**
- **Architecture Diagram**
- **Data Flow Diagram**
- **Technologies Used**
- **Expected Outcomes**
- **References**

PROBLEM STATEMENT

The project aims to develop a blockchain-based FIR management system to ensure data integrity and security, enhancing trust between law enforcement and the public.

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ABSTRACT (SYSTEM OVERVIEW)

As digital processes evolve, ensuring the security and trustworthiness of First Information Reports (FIRs) is essential. Traditional FIR systems struggle with data breaches and unauthorized access, compromising integrity and transparency.

The project proposes a blockchain-based FIR management system utilizing Hyperledger Fabric for secure, permissioned access and IPFS (InterPlanetary File System) for decentralized storage of digital evidence. Together, these technologies create a tamper-proof and transparent platform for FIR registration, tracking, investigation, and resolution.

By addressing the limitations of existing systems, the proposed solution enhances the integrity, efficiency, and trustworthiness of FIR management, contributing to a more secure criminal justice framework.

Difference Between t-FIR and FIR

CHARACTERISTICS	TRADITIONAL FIR	FIR USING BLOCKCHAIN
Complaint data security	Complaint data stored in a centralized database which is vulnerable for attacks. Not that secure	Complaint data is stored in decentralized and in a secured way
Efficiency	Manual data entry, lack of authentication and collaboration	Automation in the system increases efficiency and real time updates.
Transparency	Lack of transparency due to doubts about registering, handling and investigating complaints.	Increases transparency by allowing users to track the status of complaints and building trust among users.
Accessibility	Access to complaint records may be restricted, retrieval of historic data is difficult	Decentralized nature offers authorized parties to have access to data. Retrieval of historical data has become effortless.

LITERATURE SURVEY

1. Read several research papers related to the problem statement.

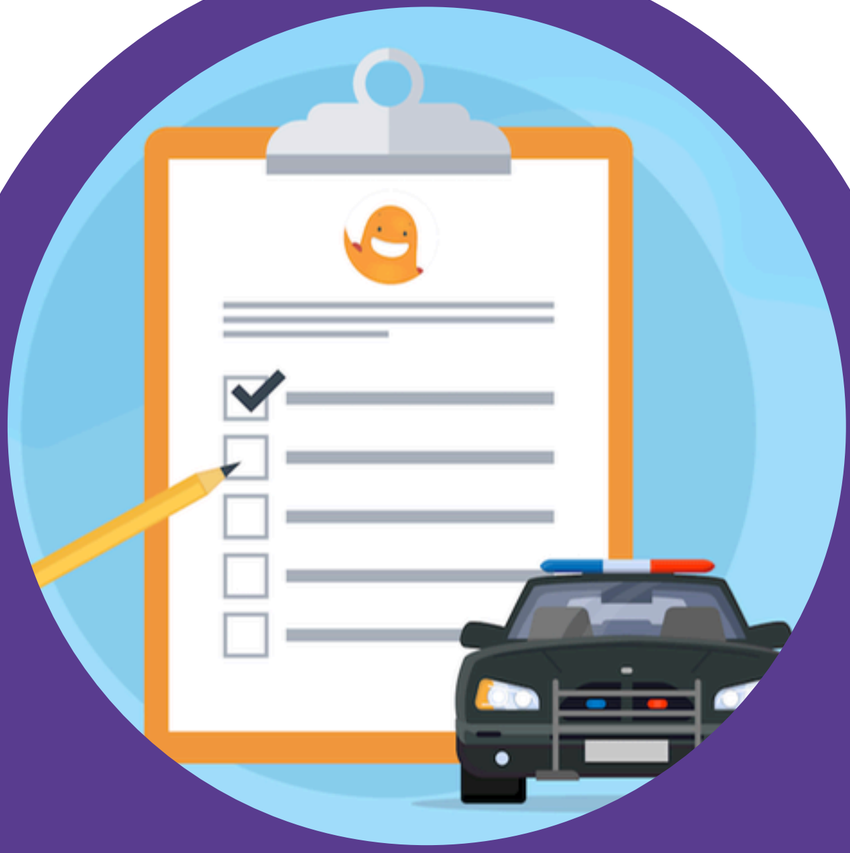
Link-

https://docs.google.com/document/d/1bCU-3sjkeOJC1q0FBRpYat7rHloIRoPegSKwxmV6k24/edit?tab=t.0

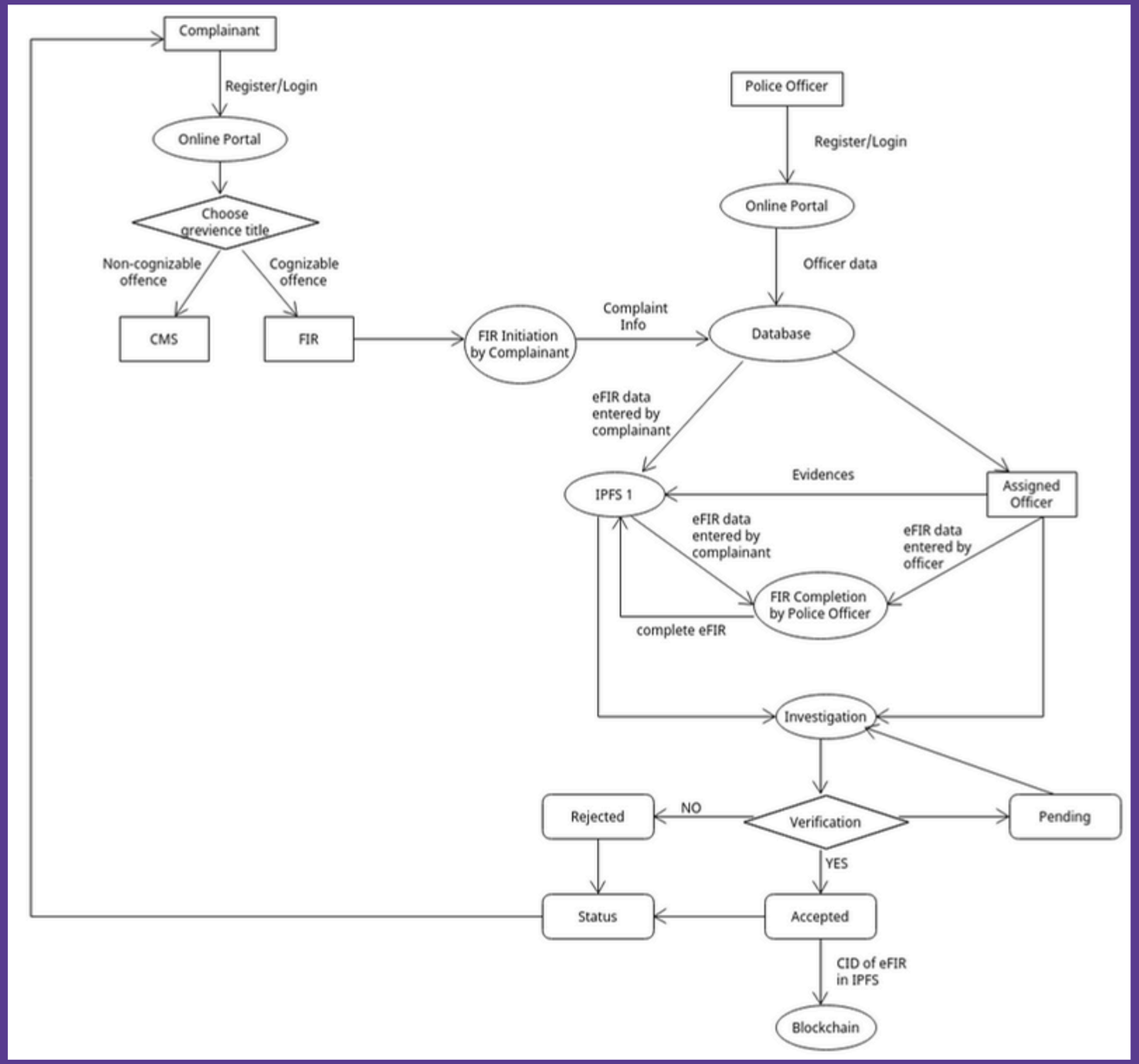
2. Exploration of Government Police Websites:

Link-

https://www.digitalpolicecitizenservices.gov.in/centercitizen/login.htm
https://punepolice.gov.in/
https://citizen.mahapolice.gov.in/Citizen/MH/index.aspx
https://pune.dcourts.gov.in/case-status-search-by-case-number/
https://mumbaipolice.gov.in/
https://jeevanportal.com/indianstate/maharashtra/district/maharashtra-police-online-fir.php https://www.mahapolice.gov.in/



ARCHITECTURE DIAGRAM



DATA FLOW

Start: User Files e-FIR

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Smart Contract Triggered

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Upload FIR data to IPFS

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IPFS Generates Hash

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Store Hash on Blockchain

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Notify User of New Block

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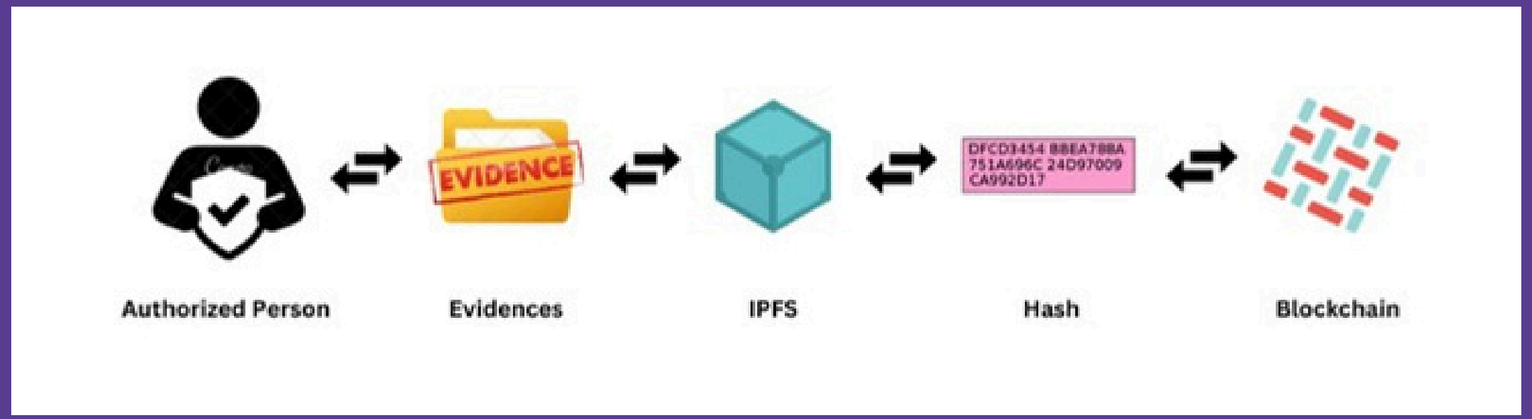
Admin & User Access FIR Data



TECHNOLOGIES

CONCLUSION

In conclusion, our project tackles real-world issues in FIR management using blockchain technology, specifically Hyperledger Fabric, to deliver a secure, transparent, and efficient solution. This approach has the potential to transform the legal system and enhance public trust in law enforcement processes.

REFERENCES

- https://citizen.mahapolice.gov.in/Citizen/MH/index.aspx
- https://hyperledger-fabric.readthedocs.io/en/release-2.5/
- https://docs.ipfs.tech/
- https://www.youtube.com/watch?v=rwKPXHUlmks&t=1544s
- https://angular.dev/overview
- https://docs.google.com/document/d/1vjWkIijR6nN-d1MeoCWeJ1Q4BsUlfpCmLRaq7f-arKY/edit

Thank you!