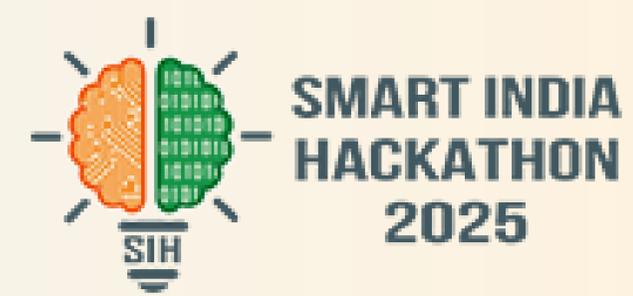
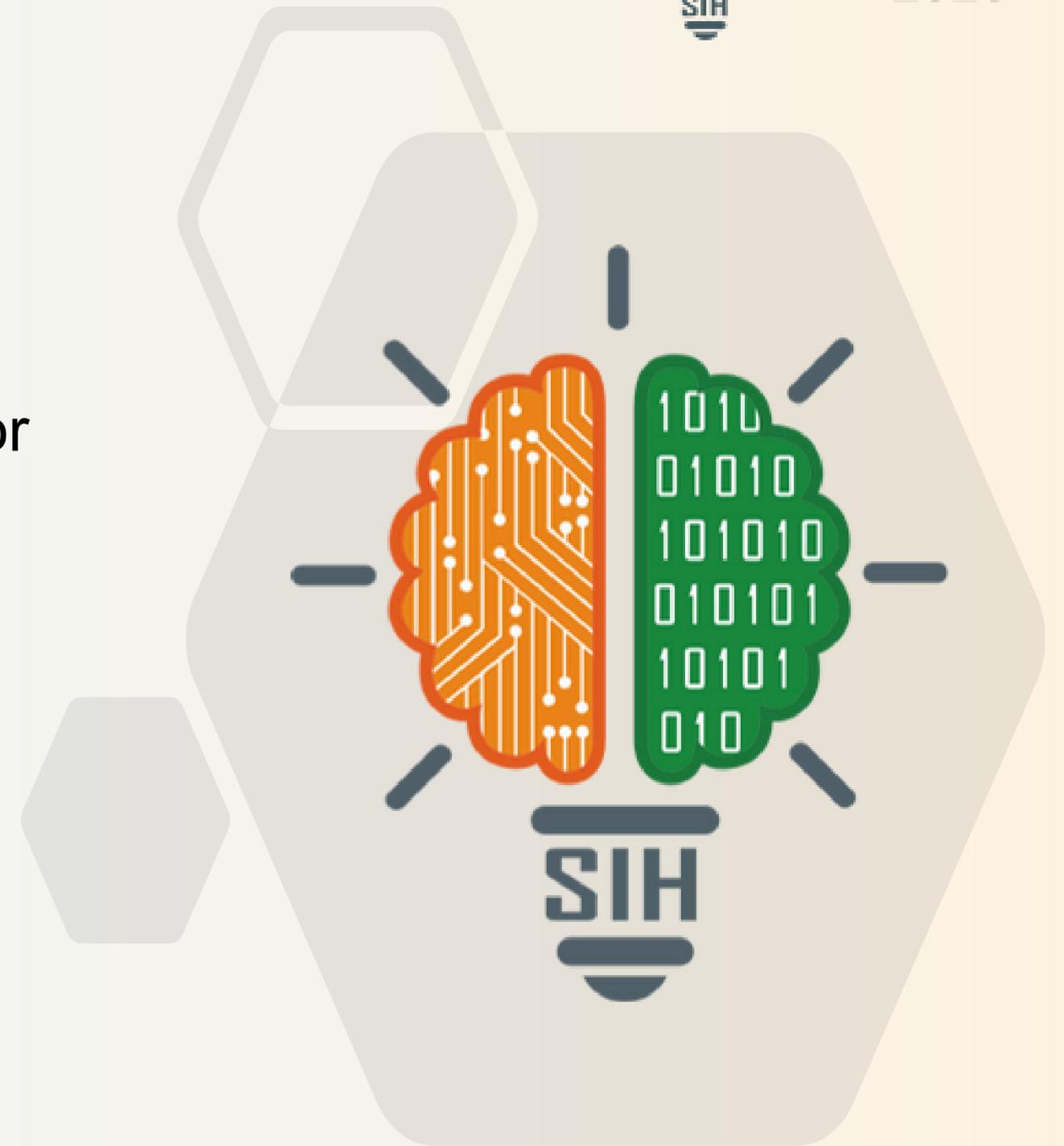


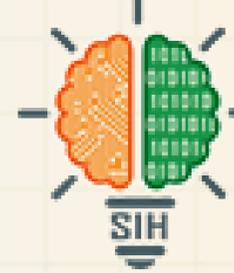
# SMART INDIA HACKATHON 2025



## Nyantra

- **Problem Statement ID-** SIH25154
- **Problem Statement Title-** Smart DBT Framework for Effective Implementation of PCR & PoA Acts
- **Theme-** Smart Automation
- **PS Category-** Software
- **Team ID-** 56931
- **Team Name-** Code-A-Cola





## IDEA/SOLUTION



- **Victim Identification & Auto-Verification:** Real-time victim & case verification under PCR & PoA Act via **Aadhaar, CCTNS, and eCourts using OTP-based validation.**
- **Blockchain-Enabled DBT Engine:** Automated **PFMS-linked** fund disbursement with digital sanction workflow and tamper-proof **blockchain tracking.**
- **Real-Time Monitoring Dashboard:** Multi-tier dashboards for Central, State, and District authorities with **color-coded progress indicators, status tracking, and transparency view.**
- **Beneficiary Portal & Mobile App:** **Multilingual, user-friendly** interface with **DigiLocker integration, offline access, real-time case and fund status updates.**
- **Data Privacy & Victim Anonymity:** End-to-end **AES encryption** and **Blockchain audit trails** with **Victim Anonymity Mode** for confidential identity protection under DPDP Act, 2023.
- **AI-Driven Grievance & Feedback System:** **Multilingual AI chatbot** with **ticket-based grievance redressal, escalation tracking, and post-relief feedback collection** for system improvement.
- **API Integration:** **Unified API framework** linking District Authorities, Social Welfare Departments, PFMS & Law Enforcement Systems for synchronized data exchange.
- **AI Analytics Engine:** Predictive analytics for **delay detection, fund utilization analysis, and scheme performance optimization.**

## PROBLEM RESOLUTION

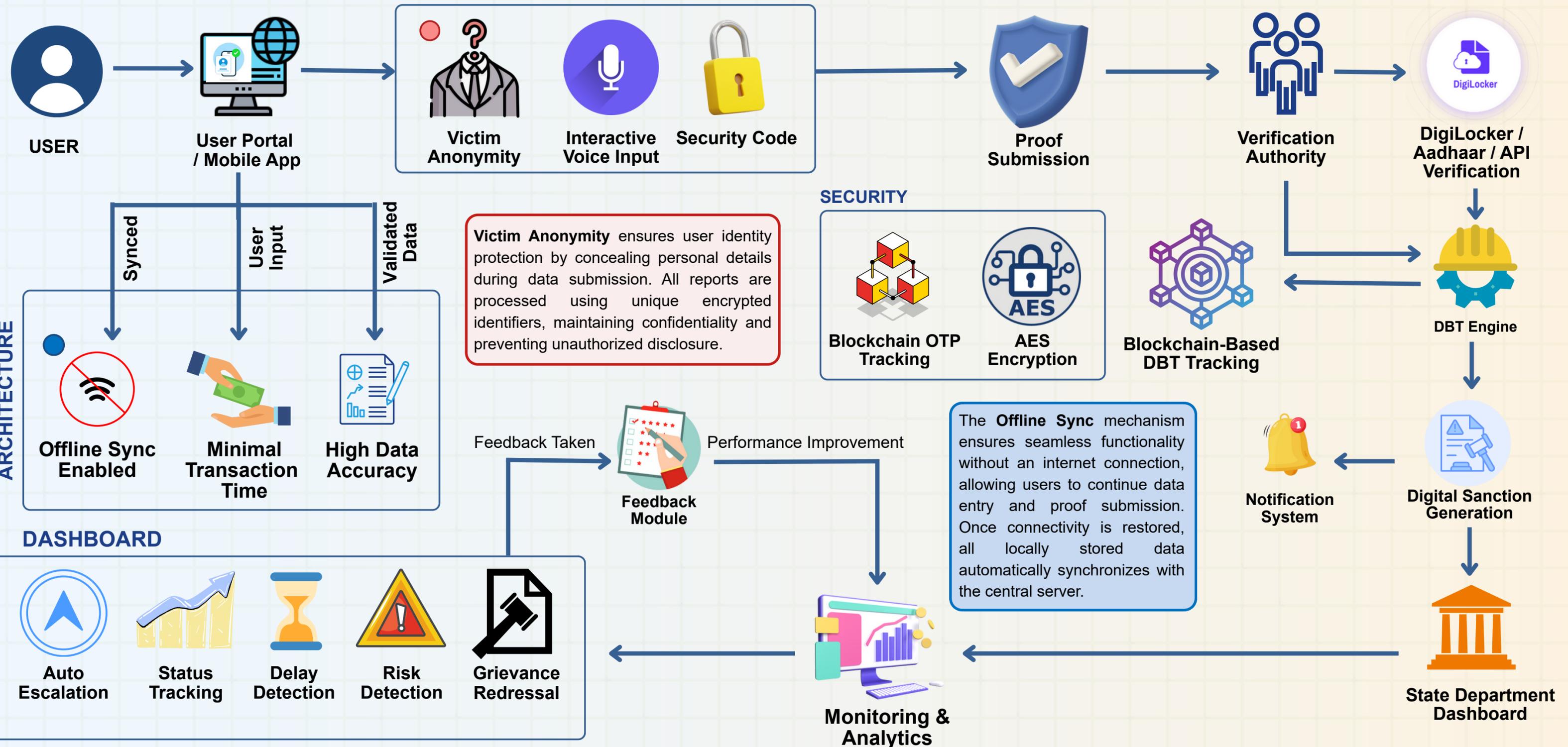


- Eliminates manual processing delays through automation of DBT transfers.
- Prevents fund misallocation and tampering using blockchain-secured transactions.
- Enables real-time unified data access via seamless inter-departmental integration.
- Safeguards victim identity and privacy through a robust data protection framework.
- Bridges digital gap for tribal & rural beneficiaries via multilingual offline portal.

## UNIQUE VALUE PROPOSITION (UVP)



- **Single-Window DBT Portal** integrating FIR details, victim ID, fund approval, blockchain backed DBT tracking in one platform.
- **Victim Anonymity Mode & AES Encryption** protects confidential identity and sensitive data during all processes.
- **AI/ML Risk & Delay Detection** auto-identifies sanction delays and fund misuse.
- **Voice & Local Language Support with Dial-in IVR system** enables rural and tribal users to check payment status without internet.
- **Offline-First Mobile App** ensures uninterrupted access in low-network areas with auto-sync when online.
- **Citizen-Centric Design with Feedback and Grievance Module** ensures simple, inclusive access, 24×7 issue resolution and user insight collection.



## Technical Feasibility

- **API Integration:** Uses Aadhaar, DigiLocker, CCTNS & eCourts for seamless data exchange.
- **Blockchain Security:** Ensures tamper-proof, transparent fund tracking for DBT transfers.
- **Offline & Multilingual Support:** Works in low-network areas, supports tribal or regional languages & IVR.

## Market Feasibility

- **Wide Reach:** Targets rural and tribal beneficiaries effectively.
- **Government Alignment:** Fits within PCR & PoA Act relief programs.
- **High Adoption Potential:** Citizen-centric design ensures ease of use & engagement.

## Financial Feasibility

- **Cost Optimization:** Reduces manual processing and administrative costs.
- **Existing Infrastructure:** Uses government DBT systems (PFMS) for fund transfer.
- **Efficient Fund Utilization:** Minimizes leakage and delays, ensuring proper use of resources.

## **CHALLENGES**

- Ensuring secure and transparent fund transfers
- Maintaining victim privacy and data integrity
- Handling large-scale data efficiently
- Real-time synchronization across platforms
- Integrating offline and online modes seamlessly
- Building an intuitive UI for low-literacy users
- Predictive analytics accuracy for risk detection

## **SOLUTIONS**

- Implemented **blockchain DBT tracking** to prevent tampering and misallocation.
- Introduced **Victim Anonymity Mode with AES encryption** to protect personal info.
- Designed a **scalable cloud-based architecture** for high-volume record handling.
- Used **event-driven APIs and auto-sync mechanisms** for instant updates.
- Developed **offline-first mobile app** with automatic data sync on reconnect.
- Added **voice guidance, visual icons & multilingual support** for tribal/rural users.
- Integrated **AI & ML with historical & real-time data** to predict delay & fund misuse.

## POTENTIAL IMPACTS



- **Timely Relief & Assistance:** Facilitates **victims of caste-based atrocities and inter-caste couples** to receive monetary relief and incentives without delays.
- **Centralized Data Availability:** Provides **government stakeholders and financial institutions** a unified platform for real-time access to victim, case & fund data.
- **Transparency & Accountability:** Builds **public trust among citizens and authorities** through clear, traceable fund disbursement via blockchain.
- **Inclusive & Accessible System:** Empowers **rural, tribal, and low-literacy beneficiaries** with offline access, multilingual support, and voice/IVR interfaces.
- **Efficient Monitoring & Decision-Making:** Enables **District Magistrates, social welfare departments, and the Ministry of Social Justice & Empowerment** to track funds, identify gaps, and optimize welfare delivery.
- **Enhanced Citizen Engagement:** Allows beneficiaries to monitor progress, submit grievances, and share feedback, fostering active participation in the welfare process.
- **Technology-Driven Governance:** Supports **state/UT governments and financial institutions** to create an efficient, automated, and accountable DBT ecosystem for better s delivery.

## BENEFITS



### **SOCIAL**

- **Empowerment of Marginalized Communities:** Ensures victims of caste-based atrocities and inter-caste couples gain dignity and social recognition.
- **Enhanced Public Trust & Access to Justice:** Provides beneficiaries a transparent, accountable, efficient inclusive system for timely relief & grievance redressal.

### **ECONOMIC**

- **Efficient Fund Utilization:** Ensures direct transfer to beneficiaries, reducing leakage enhancing economic support.
- **Cost Reduction in Administration:** Cuts manual delays and saves government resources and operational costs.

### **ENVIRONMENTAL**

- **Paperless Processes:** Reduces paper consumption by digitizing applications, approvals, and fund tracking.
- **Lower Carbon Footprint:** Minimizes physical travel for victims & officials through mobile apps and online access.

