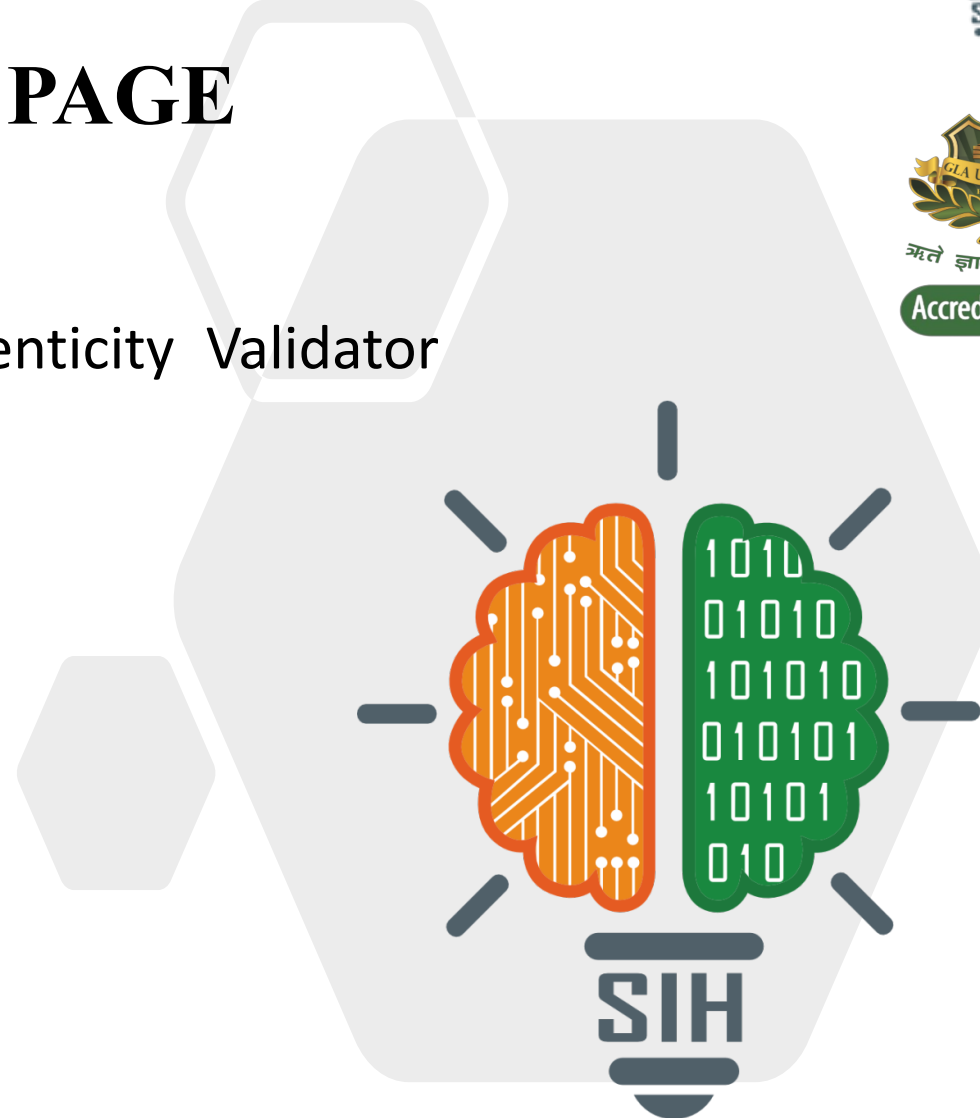
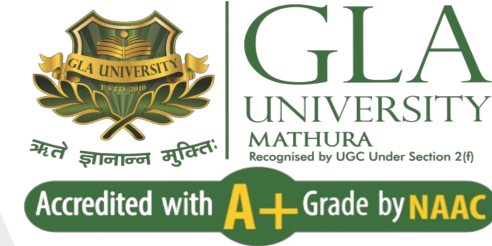


# SMART INDIA HACKATHON 2025



## TITLE PAGE

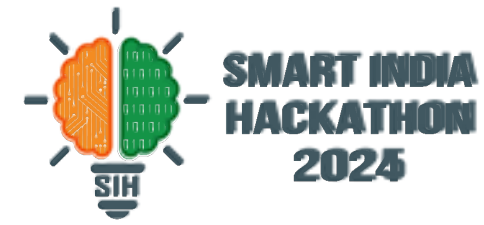
- Problem Statement ID – SIH25029
- Problem Statement Title - Authenticity Validator  
for Academia
- Theme - Smart Education
- PS Category - Software
- Team ID -
- Team Name - CodeBusters



# IDEA TITLE

- ❖ **InstaVerify** is a decentralized document verification system that leverages **Blockchain** and **IPFS** to ensure tamper-proof, transparent, and **secure** validation of academic and official records. By generating unique **cryptographic hashes** and storing them on the blockchain, it eliminates forgery, speeds up verification, and builds trust among institutes, students, and employers.
- ❖ **Key features :**
  - \* **User-Friendly Dashboards** : Separate and easy to use dashboards for students, colleges and verifiers.
  - \* **Blockchain Security** : Stores document hashes on Ethereum—tamper-proof and forgery-proof.
  - \* **OTP-based authentication** : OTP-based login via Nodemailer to ensure only authorized users can access documents.
  - \* **Instant Verification**: Confirms authenticity of documents in seconds instead of days.
- ❖ Github Link : [Link](#) (in progress...)

# TECHNICAL APPROACH



## ~ Frontend :

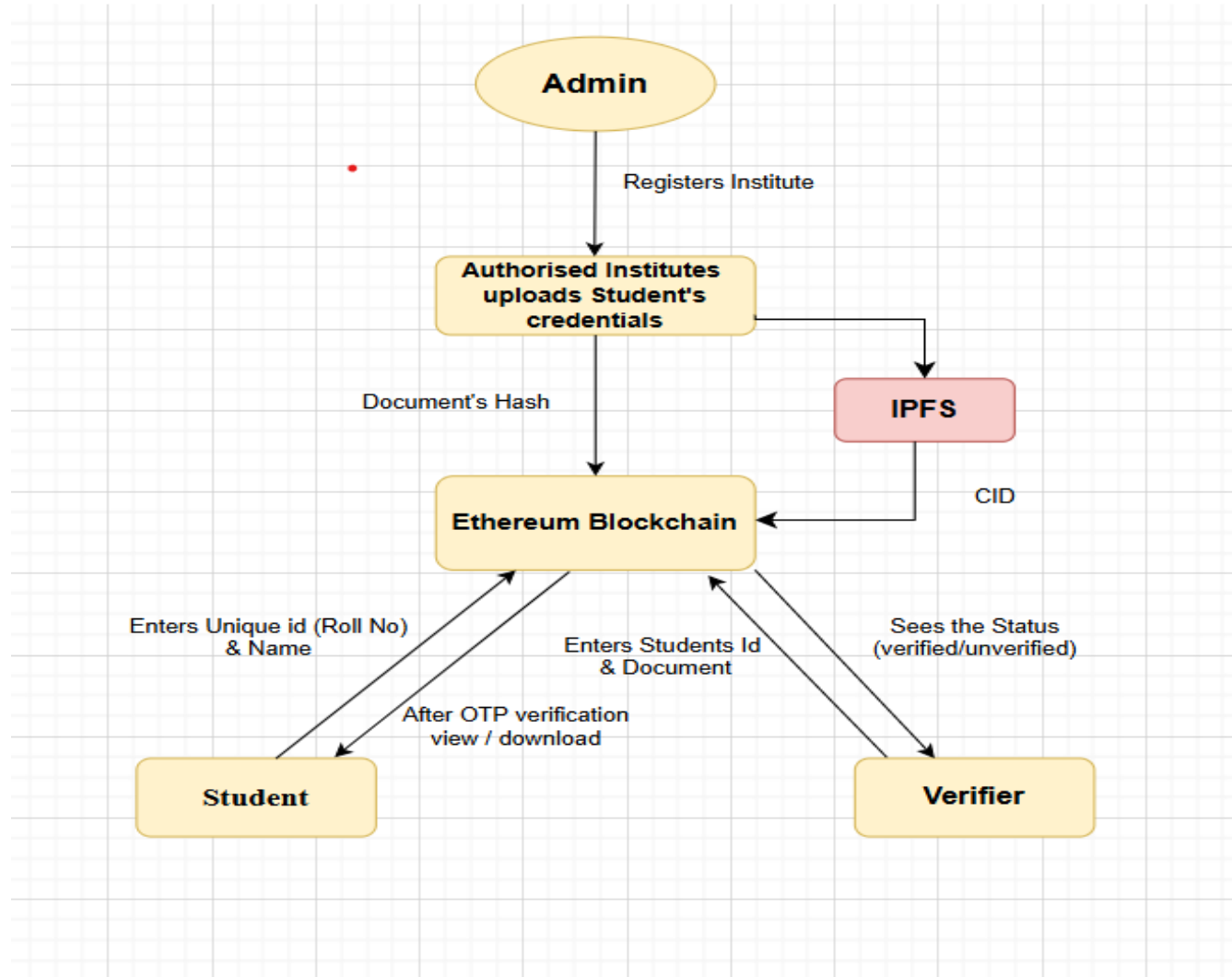


## ~ Backend :



Prototype : [Youtbue Link](#)

# FLOW CHART



## ❑ Why InstaVerify is feasible ?

- **Technologically Ready:** Uses proven tools like Ethereum, IPFS, and Ethers.js for reliable implementation.
- **Rapid Verification:** Verifies documents in **under 5 seconds** via on-chain hash comparison.
- **Scalable:** Can handle millions of documents efficiently with modular blockchain-IPFS design.

## ❑ Possible challenges and their solution

- **Challenge:** Storing large volumes of documents on IPFS can be slow or costly.  
**Solution:** Use **pinning services** like **Pinata** or **file compression/encryption** to optimizes storage.
- **Challenge:** Slow adoption by colleges due to unfamiliarity with blockchain.  
**Solution:** Offer a **simple UI, clear guidelines** and we can also run pilot programs and **awareness campaigns**.
- **Challenge:** Network congestion can slow down verification.  
**Solution:** Use efficient blockchain networks or layer-2 solutions to maintain speed.

## ❑ Impact

- **Reduces Fraud-Related Risks:** Helps institutions avoid legal or reputational risks caused by fake certificates..
- **Promotes Transparency:** Institutions and employers can instantly verify credentials, building accountability.
- **Boosts Efficiency:** Reduces document verification from days to **seconds**, transforming traditional processes.

## ❑ Benefits

- **Environmentally Friendly:** Minimizes paper usage by shifting to **digital verification**, supporting sustainability initiatives.
- **Customizable Access:** Permissions can be tailored so **only authorized personnel** can verify or upload documents.
- **Reduces Human Error:** Automation of verification eliminates mistakes common in manual processes.

- Verifi-Chain: A Credentials Verifier using Blockchain and IPFS
- Three held in fake certificate racket, 15 counterfeit documents seized
- IPFS – InterPlanetary File System
- Decentralized certificate issuance and verification system using Ethereum blockchain technology