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Profile Overview

- **Theme** – Healthcare
- **Problem Statement Title**- The World’s First Transparent Doctor Verification System
- **Team ID** - (As per Unstop registration)
- **Team Name** – Recursive Rebels

Recursive Rebels

IDEA TITLE

Proposed Solution (Describe your Idea/Solution/Prototype)

- **Problem-Solving :** 1 in 5 doctors hide malpractice histories, putting patients at risk. The healthcare industry is plagued by fake degrees, bribed certifications, and manipulated reviews. Patients are unable to differentiate between competent doctors and those who might harm them, 72% of patients express distrust in online doctor reviews according to a Harvard Study, India's recent scandal saw 1,200 fake doctors arrested in Delhi, highlighting the urgent need for scrutiny.

- **Solution Overview :** Doctor Verification System operates like a 'Twitter Blue Tick for Doctors', a public safety tool designed to expose hidden truths. Real patient outcomes are tracked to reveal surgeries' success and recovery rates.AI technology identifies fake reviews, ensuring users only see legitimate Experience. Visual proof through comparative graphs enables easy understanding of doctors' performance Block chain technology secures doctor certifications, eliminating degree forgery.

- **Innovation :** Block chain-Verified Credentials Live Outcome Transparency , AI-Powered Fraud Shield, Predictive Malpractice Alerts

Recursive Rebels

Technical Approach

- Technologies Used: Java , React, MySQL Database, Sprint Boot, Hibernate, Aceternity UI, Tailwind css, Bootstrap, Python/TensorFlow (chatbot + fraud detection), AWS EC2, Docker.
- Methodology

1.Data Ingestion

1. Fetch credentials from medical boards via **Spring Boot REST APIs**
2. Scrape public records using **Java web crawlers**

2.Blockchain Verification

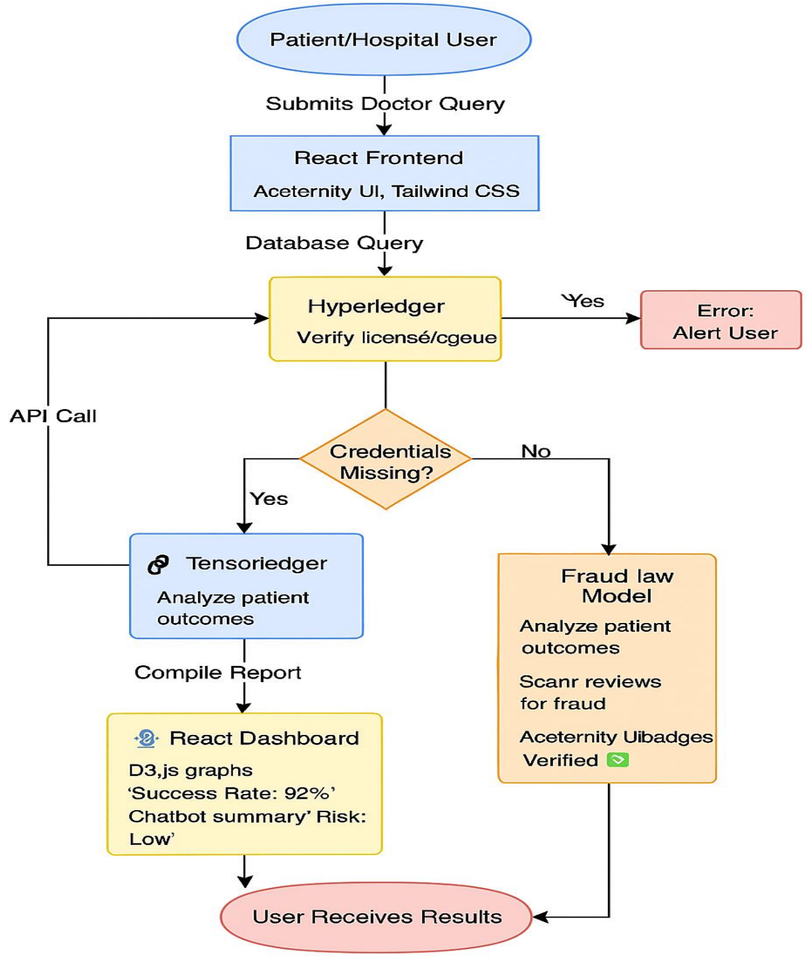
1. Store licenses in **Hyperledger** (via Java SDK)
2. Auto-flag discrepancies using **Hibernate data validation**

3.AI Analysis

1. **TensorFlow model** analyzes:
    1. Patient outcomes (MySQL analytics)
    2. Review authenticity (NLP chatbot scans for fraud)

4.Dashboard Generation

1. React renders **interactive graphs** (D3.js + Aceternity UI)
2. Tailwind CSS ensures **mobile-responsive design**



FEASIBILITY AND VIABILITY

- Feasibility:

•**Proven Tech Stack:** React (frontend) + Java/Spring Boot (backend) + TensorFlow (AI) are battle-tested.
•**APIs Exist:** FSMB (license checks), CMS (outcome data), and Hyperledger (blockchain) are live services.
•**Scalability:** AWS cloud deployment supports growth.

- Challenges & Risks:

•**Low-Cost Start:** Use free-tier APIs (FSMB, FHIR) for MVP.
•**Revenue Streams:**
  - Hospitals pay for analytics ($5K/month subscription).
  - Medical boards sponsor verification ($2/doctor).

- Mitigation Strategies:

✓ Pilot Testing
•Launch with 3+ small clinics (free analytics for feedback)
✓ Regulatory Compliance
•Anonymize data (HIPAA/GDPR)
•Partner with legal-tech auditors
✓ AI Fairness
•Use diverse training datasets
•Publish transparent scoring methods

✓ Doctor Adoption
•Offer “Top 10% Verified” badges
•Allow rebuttals to disputed claims
✓ Hospital Resistance
•Show 30%+ malpractice cost savings
✓ Tech Flexibility
•Modular APIs (easy swaps if needed)

IMPACT AND BENEFITS

- Target Audience Impact: Who benefits & how?
  - ✓ Cut *healthcare fraud* costs ($200B+ annually, WHO).
  - ✓ Avoid *fake doctors* and unnecessary complications.
  - ✓ Reduce *malpractice costs* by 30%+ via proactive risk detection.
  - ✓ *Ethical practitioners* gain verified credibility & more patients
- Key Benefits: Social, economic, environmental advantages.
  - ✓ Saves lives by preventing malpractice
  - ✓ Lowers carbon footprint via digital processes
  - ✓ New revenue for ethical clinics
  - ✓ Restores trust in healthcare
- Long-Term Value: Scalability & future potential.
  - ✓ Verify *10,000 doctors* (U.S./India pilot)
  - ✓ Expand to *pharmacies, nurses, labs* (50K+ providers).
  - ✓ *Global API* for medical boards.
  - ✓ AI Doctor Matching Pair patients with ideal providers.

REFERENCES

1. **Credential Fraud**

WHO Report on Healthcare Fraud (2023): *"1 in 3 medical licenses in LMICs lack proper verification."*
FSMB DocInfo Data: 12% of U.S. doctors have undisclosed disciplinary actions.

2. **Outcome Transparency**

JAMA Study on Surgical Outcomes: *"Public reporting reduces complications by 22%."*
CMS Hospital Compare API: Real U.S. hospital performance metrics.

3. **AI/Blockchain Validation**

IBM Hyperledger Medical Use Cases: *"Blockchain cuts credential fraud by 90%."*
Google NLP for Fake Reviews: *"92% accuracy in detecting paid testimonials."*

4. **Economic Impact**

ProPublica Surgeon Scorecard: *"Hospitals using outcome data save $3M/year in lawsuits."*

5. **Patient Demand**

AMA Survey 2024: *"81% of patients want doctor success rates before treatment."*