

# Capstone Letter of Intent (LOI)

## I. Project Overview

**Capstone Project Name/Idea:** Insta-Labs – Decentralized Patient Data for Pathology Labs

**Brief Project Description:**

Insta-Labs is a blockchain-powered platform that empowers small and medium-sized pathology labs to securely store patient data on-chain. By leveraging decentralized technology, Insta-Labs provides patients with full ownership of their health records, enabling them to access and share their data anytime, anywhere. Labs can use a streamlined tech solution to upload, manage, and share reports while maintaining compliance with data privacy regulations.

**Reason for Choosing this Project:**

India has a dense network of small pathology labs, many of which lack advanced tech solutions for data management. This results in inefficiencies, security risks, and inconvenience for patients. I believe blockchain has the potential to transform healthcare by making data more accessible, secure, and patient-centric. Insta-Labs addresses these challenges while aligning with the principles of decentralized science (DeSci). I'm passionate about combining healthcare and technology to create a meaningful impact.

## II. Go-to-Market Strategy

**Target Audience:**

1. **Pathology Labs:** Small and medium-sized labs seeking a cost-effective and secure solution for storing and managing patient reports.
2. **Patients:** Individuals who want easy access to their health records and the ability to share them securely with doctors and other healthcare providers.

**Value Proposition:**

- **For Pathology Labs:**
  - Secure and efficient report management.
  - Improved patient retention through enhanced service delivery.
  - Cost-effective tech adoption compared to custom-built solutions.
- **For Patients:**
  - Ownership and control over their health data.
  - Access to reports from anywhere, at any time.
  - Secure sharing of data with healthcare providers.

**Marketing and Distribution:**

1. **Pilot Program:** Launch in a small city with high pathology lab density to validate the solution and gather feedback.
2. **Outreach to Labs:** Conduct targeted outreach to small and medium-sized pathology labs through in-person visits, webinars, and demos.

3. **Patient Awareness Campaigns:** Use local advertising, social media, and partnerships with healthcare providers to inform patients about the platform.
4. **Partnerships:** Collaborate with diagnostic chains, health-tech companies, and regional health organizations for scaling.

### **Competitive Landscape:**

While there are existing solutions for managing patient data, Insta-Labs differentiates itself through:

- **Blockchain Integration:** Ensuring security, transparency, and immutability of health records.
- **Focus on Small Labs:** Catering to labs that lack the resources for custom solutions.
- **Patient Ownership:** Empowering patients with control over their data, setting it apart from centralized systems.

## **III. Technical Details**

### **Tech Stack:**

- **Blockchain Platform:** Solana
- **Smart Contract Language:** Rust
- **Database:** IPFS or Arweave
- **Front-End Framework:** Next.js
- **Database:** Decentralized storage systems like IPFS or Arweave.

### **Smart Contract Development:**

- Smart contracts will be developed using Rust to manage data access and permissions securely.
- Focus on patient consent and data privacy, ensuring compliance with India's Personal Data Protection Bill (PDPB).

### **Testing and Security:**

- Unit testing and integration testing for all features.
- Security audits of smart contracts to protect sensitive health data.
- Formal verification tools to ensure reliability and correctness of smart contracts.

## **IV. Conclusion**

**Project Timeline:** 1 month for MVP

**Commitment:** We are totally committed to bring this project to reality and we will do everything we can to make it a success.

**Initials:** PS and HP