Imhotep-III

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Unstacked Labs BWAI Capstone Project

The Problem

1. **Scattered paper**-based records - lost, fragmented info.
2. **Reactive healthcare** - families seek health too late.
3. **Affordability** - poverty, poor nutrition, high healthcare costs.

Vision

- A patient-centered digital companion for mothers and children in Africa.
- Understandable health insights, trusted records, and support for affordability.

Solution Overview

Web app where mothers/caregivers can:

1. Upload or enter health records.
2. Ask questions to an AI health assistant.
3. Get personalised health insights, health risks, and recommendations.
4. Have record anchors written to the XRPL.
5. (Future) Earn tokens for positive health behaviours.

How it Solves the Three Challenges

1. Scattered Maternal and Child Health Information - XRPL Anchoring
-   Digital storage in Firestore + on-chain anchors for integrity.
2. Reactive behaviour - AI Assistant (Genkit + Gemini + RAG)
-   Contextual insights from their own records.
3. Affordability - DeFi & IMT Token
-   Reward healthy behaviours; use tokens for nutritious food & healthcare costs.

Architecture

- ❏ **Frontend:** JS Web app (public/app.js)
- ❏ **Backend:** Node.js/Express on Cloud Run
- ❏ **AI:** Genkit + Gemini 2.5 Flash + RAG
- ❏ **Blockchain:** XRPL

AI Flow (RAG)

★ **User question:** 'What are the key risks in my pregnancy records?'

★ **Backend:**
- Fetches relevant records from Firestore
- Builds contexts with Genkit
- Calls Gemini 2.5 Flash via RAG

Response: clear explanation + guidance on what to discuss with a doctor.

XRPL Anchoring

➔ Hash of record or event - XRPL transaction.

➔ No raw health data on-chain.

➔ Provides proof-of-integrity and transparency.

DeFi & IMT Token

➢ **IMT token rewards:**
- Completed ANC visits.
- Child vaccination milestones.
- Nutrition check-ins, etc.

➢ **Tokens Can be off-ramped to:**
- Buy nutritious food.
- Pay for clinic visits or micro-insurance.

Sustainability & Scalability

- Cloud Run + Firestore - Serverless, scales with usage
- Modular Genkit flows - easy to add new use cases and languages.
- Clear path to real-world pilots with clinics/NGOs.

Demo Flow

Short walkthrough:

- Open the app
- Upload record
- XRPL anchor shown
- Ask AI for Insights
- Get contextual response

Next Steps

- Mobile app + offline-first
- Integrates IMT token and off-ramp partners.
- Pilot with maternal and child health programmes.

Call to Action

Join us in revolutionizing maternal and child healthcare in Africa through:

★　Technical contribution
★　Healthcare partnerships
★　Community engagement
★　Investment opportunities

"Mao Zedong in the 1950s-60s popularized the saying 'Women hold up half the sky.' At Imhotep-III, we believe women hold the entire sky -and we are committed to building the foundation that supports them."

Thank You!

- Contact: narokweaugustine@gmail.com
- Github Repo Link: https://github.com/Narokwe/Imhotep-III
- Cloud Run URL: https://imhotep-iii-684748583012.us-central1.run.app/

Imhotep-III (I-III)