AI Hackathon

SanjeevaniAI – A Smart Lifeline for Thalassemia Warriors

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Title: SanjeevaniAI A Smart Lifeline for Thalassemia Warriors

Subtitle

AI for Good Hackathon 2025
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Supported by: Blend360 India | Blood Warriors | Microsoft | SVP India

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Problem Statement

The Challenge:

Thalassemia patients in India face:

- Difficulty in finding timely and regular blood donors
- Poor awareness and education
- Financial and medical hardships
- Inadequate digital infrastructure and support

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Our Idea – What is SanjeevaniAI?

SanjeevaniAI is an AI-powered platform designed to save lives by simplifying and strengthening the blood donation ecosystem for Thalassemia care.

AI-Powered Donor Prediction

Learns donor behavior and predicts availability based on past patterns and health guidelines.

Seamless System Integration

Works alongside e-RaktKosh and Blood Warriors' Blood Bridge to avoid duplication and streamline data.

Live Donor Mapping

Uses geolocation to identify nearby and rare blood group donors in real time.

Blockchain-Based Tracking

Ensures donor contribution history is transparent, secure, and tamper-proof.

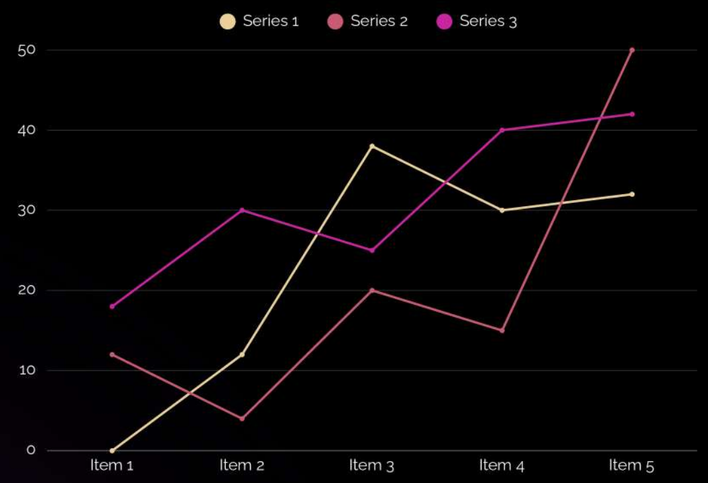
24/7 Thal-EduBot

- A multilingual chatbot for patient guidance, transfusion reminders, and Thalassemia education.

Predicts donor availability

- Predicts donor availability using machine learning
- Maps nearby and rare blood group donors

Unique Features



Live Donor Heatmap

Track real-time donor locations for each blood type

AI-Powered Prediction Engine

Forecasts when a donor will be eligible again

Thal-EduBot

Chatbot for multilingual education, reminders & care

Blood Group Analytics & Alerts

Monitors blood group availability and flags rare types

Trust & Safety Scoring

Displays donor reliability based on donation history

Blockchain-Based Donor Log

Immutable history for secure and transparent records

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Unique Featur

Donor Heatmap & Alerts

Find donors based on real-time geolocation

AI-Powered Prediction Engine

Predict next likely donation date of each donor

Thal-EduBot

Educates and supports patients via multilingual chatbot

Secure & Transparent Datas

Blockchain + encryption for donor-patient info

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Technology Stack

- Frontend: React Native / Web (HTML5/CSS)
- Backend: Node.js, Python (FastAPI)
- AI/ML: Azure ML, TensorFlow Lite, Scikit-learn
- Maps: Google Maps / Mapbox API
- Database: Firebase, Azure SQL
- Security: Blockchain, OAuth 2.0
- Integration: e-RaktKosh, Blood Bridge API

How It Works

For Patients:

- Tap to request blood
- Chatbot for guidance & reminders
- Health record tracking

For Admins (Blood Warriors):

- Monitor donor-patient activity
- Regional shortage heatmaps
- Analytics dashboard

For Donors

- Smart reminders to donate
- Rare blood type spotlight
- Recognition via digital badges

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Impact

- Faster blood access for patients
- Better rare blood donor engagement
- Improved education & support
- Secured, ethical use of health data
- Increased donor return rate

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Key Challenges

- LOCATION TRACKING & PRIVACY COMPLIANCE
- RURAL MOBILE/INTERNET ACCESS
- DEPENDENCE ON DONOR PARTICIPATION
- INTEGRATION COMPLEXITY WITH EXISTING SYSTEMS
- DATA RELIABILITY FOR AI TRAINING

Assumptions

- To develop and successfully implement SanjeevaniAI, we are operating under the following key assumptions:
- Donor Location Sharing
- Donors are willing to share their approximate location data (city, pin code level) to enable geolocation-based matching, while ensuring their privacy is respected through anonymized mapping.
- Mobile Access for Patients or Caregivers
- Patients or their caretakers have basic access to smartphones or community health workers who can operate the mobile/web platform to request blood, interact with the chatbot, and receive notifications.
- 🔗 Data Access & Integration Support
- APIs or structured data are made available from e-RaktKosh and Blood Warriors' Blood Bridge initiative for smooth integration, real-time syncing, and avoiding redundancy in donor-patient matching.
- Availability of Sample Donor Data
- We assume access to historic blood donation records or anonymized datasets that can be used to train our AI model to accurately predict donor behavior, availability cycles, and engagement trends.
- 🌐 Internet Connectivity (Basic or Assisted)
- Users—especially in rural regions—have intermittent but sufficient internet access to interact with the system or can receive support through community health volunteers.
- 🔐 Consent for Data Usage and Security
- Donors and patients will provide informed consent for their data to be used in a secure, encrypted, and ethical manner, complying with data privacy regulations and healthcare norms.
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Timeline

Hackathon Goal (24 hrs):

- AI model MVP for donor prediction
- UI screens (donor/patient view)
- Chatbot demo + map feature mockup

Drive Sales GrowthPost Hackathon Milestones:

- Month 1: Pilot launch (urban + rural)
- Month 2–3: Train AI model on live data
- Month 4: Add multilingual & offline support
- Month 6: Full deployment with Blood Warriors

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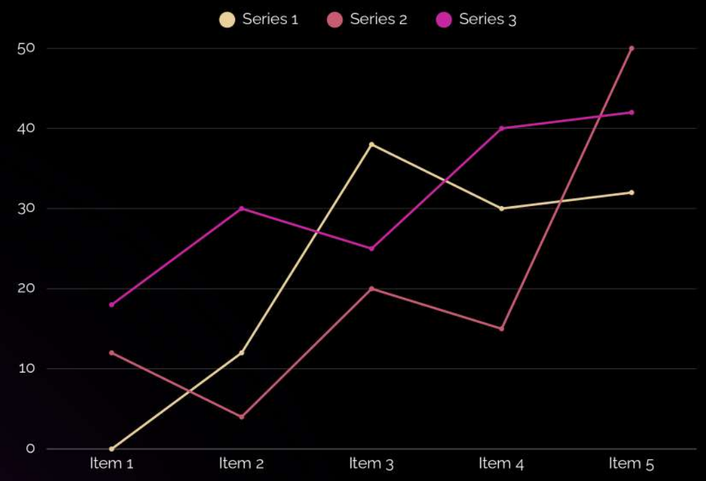
Why SanjeevaniAI?



Real-World Impact on the Thalassemia Community

It directly addresses urgent challenges faced by Thalassemia patients—especially in locating timely and compatible blood donors, reducing dependency on manual coordination.

Technically Feasible and Scalable

Built on widely adopted technologies (Azure, Python, React, etc.), SanjeevaniAI can start small and scale across regions, hospitals, or states without heavy infrastructure costs.

AI for Saving Lives, Not Just Automating Tasks

At its core, SanjeevaniAI uses artificial intelligence to make a human difference—by predicting need, encouraging timely donations, and ensuring no patient is left waiting.

Built for Inclusion, Privacy, and Transparency

Designed with multilingual chatbot support and simple mobile interfaces for accessibility. Blockchain and encrypted protocols ensure data security and user trust at every step.

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Thank You!

Let’s create a healthier future for Thalassemia warriors.

Contact us at: [arunakash006@gmail.com]

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