

 ARKAVIDIA HACKATHON • TEAM AI SLOP

Medisync

AI Hospital Orchestration

Transforming fragmented hospital operations into one cohesive,
intelligent system.

Hospital Service Crisis in Indonesia

Based on 3 empirical studies at Indonesian healthcare facilities



2023 • RS MARTHA FRISKA

Patient Dissatisfaction with Healthcare Services

Unbalanced staff workload; nurses lose focus and patients feel neglected due to excessively high patient volumes.

KEY FINDING

Staff burnout → service quality drops



2024 • LITERATURE REVIEW

Analysis of Patient Service Complaint Handling

Fragmented workflow system; triggers complaints due to long waiting times at the initial hospital service stage.

KEY FINDING

Fragmented workflow → waiting times increase



2024 • RS PUTRI HIJAU

Patient Dissatisfaction with Hospital Services

Slow medical response; doctors are not punctual and convoluted procedures trigger long patient queue build-ups.

KEY FINDING

Slow response → patient queue build-up

Meet Medisync

A Central Nervous System for Hospitals



CORE CONCEPT

Multi-Agent System

Multiple AI agents working in parallel – each with a specific task, communicating with each other in real-time.



AI LAYER

Orchestrated Intelligence

One central system manages patient flow from admission to discharge – doctor assignment, medication validation, automated billing.



OUTPUT

Full Digitalization

From digital patient tickets, real-time Telegram alerts, to auto-generated invoices – fully automated.

KEY OUTCOMES

⌚ WAIT TIME ↓

🛡 ZERO REVENUE LEAKAGE

❤ STAFF BURNOUT ↓

Poliklinik (Outpatient) Flow

100% Digital – No Front Office Needed

1



AI Online Booking

No Front Office needed. Patient registers via app and is automatically scheduled by AI based on doctor availability.



2



Smart Anamnesis

While waiting in the queue, patients fill in a guided symptom questionnaire on their own device – structured by AI.

3



AI Symptom Summary

AI processes the questionnaire and generates a structured symptom summary for the doctor – eliminating repetitive questions during consultation.

INPUT

Patient data & chief complaint

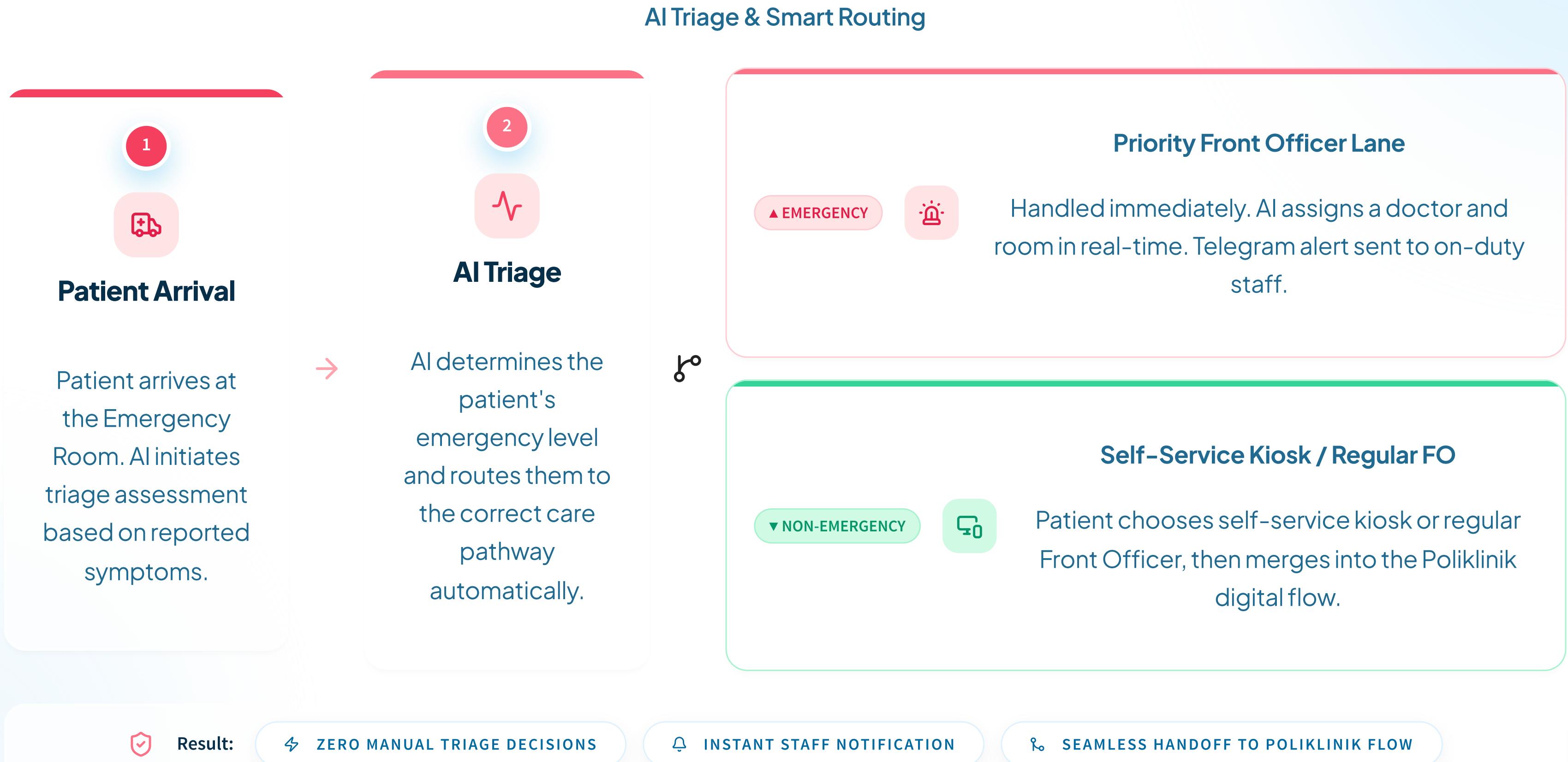
PROCESS

Guided questionnaire & symptom capture

OUTPUT

Pre-built summary ready at consultation

IGD (Emergency Room) Flow



THE BRAIN

AI Orchestrator — all Agents

Each agent has a specific role, working in parallel and real-time



Agent 1

Role Assignment

Assigns the optimal doctor based on real-time workload balancing



Agent 2

Health Check

Performs automated patient health screening and flags abnormal vitals for immediate attention



Agent 3

Doctor Assistant

Supports doctors with AI-generated clinical summaries, drug suggestions, and decision support during consultation

EXPERT VALIDATION

Validated by a Medical Practitioner



99

"This system addresses a real need that we have long felt in the field. The inter-departmental coordination that has been manual – if automated with AI – would greatly improve service efficiency and patient safety."

dr. M Hafizd Saleh

General Practitioner
Klinik Institut Pertanian Bogor

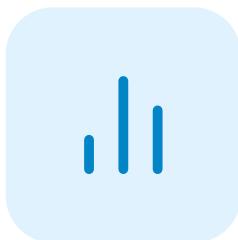
✓ CLINICALLY FEASIBLE

✓ REAL FIELD NEED

✓ READY TO IMPLEMENT

IMPACT

Who Benefits from Medisync?



Management

MONITOR

Real-time analytics dashboard, strategic oversight, and data-driven decision-making.



Doctors

DIAGNOSE

AI clinical support, instant EMR access, and automated charting to reduce admin work.



Nurses

EXECUTE

Balanced task assignments, real-time notifications, and less manual paperwork.



Patients

EXPERIENCE

Faster service, shorter wait times, transparent billing, and 24/7 AI support.

BUSINESS VIABILITY

Value-Based Pricing

Scalable pricing designed for healthcare facilities of all sizes.



TRANSACTION-BASED

Pay-Per-Ticket

Low-risk transaction model for smaller clinics and puskesmas. Billed per patient journey fully processed by the AI Orchestrator.



Zero commitment required to get started

SWOT Analysis

⚡ Strengths

- ● AI automation minimizes human error
- ● Centralized coordination via multi-agent system
- ● Real-time data visibility for better decisions
- ● Scalable architecture for any hospital size

⚠ Weaknesses

- ● High initial implementation cost
- ● Requires staff training & change management
- ● Dependent on reliable internet & server uptime
- ● Healthcare data compliance complexity

↗ Opportunities

- ● National push for hospital digitalization
- ● Potential licensing to hundreds of hospitals
- ● Integration with BPJS & SatuSehat systems
- ● Growing demand for AI in healthcare

🛡 Threats

- ● Established competitors (Oracle Health, Epic)
- ● Staff resistance to system change
- ● Evolving healthcare data regulations
- ● Cybersecurity risks on sensitive medical data