



# PulsePath:

Real-Time Hospital Bed Availability & Emergency  
Routing System

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# Problem Statement :

- Emergency patients lose precious time calling hospitals for ICU/ventilator beds.
- No central, verified system for live hospital capacity.
- Manual reporting → outdated info and confusion.
- Ambulance routing delays and lack of coordination.
- Governments struggle with real-time health resource monitoring.



**Result:** Lost golden minutes, inefficient emergency response, and preventable fatalities.



# PROPOSED SOLUTION:

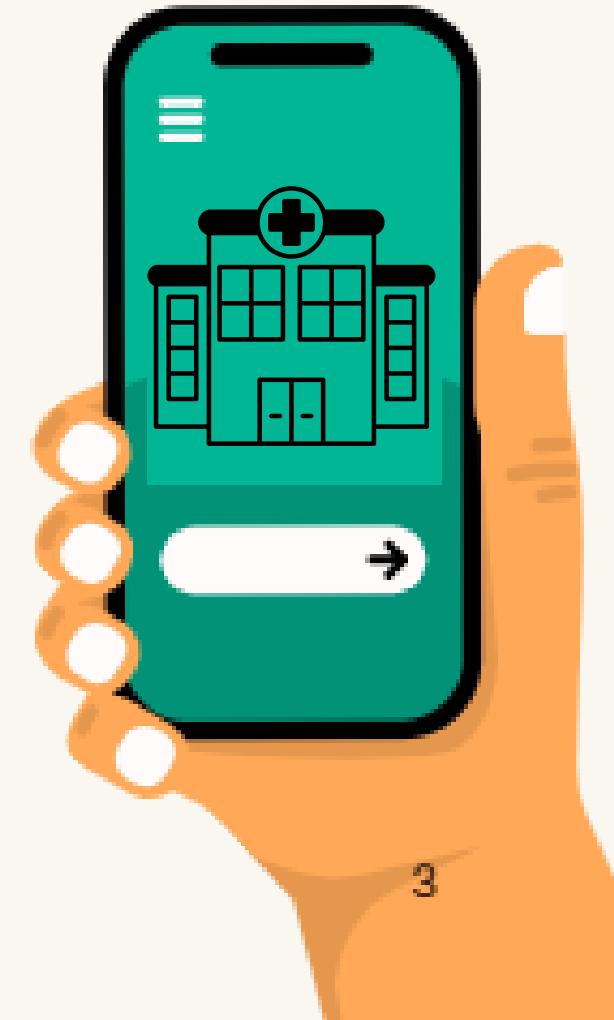
## Main Goal

Reliably show real-time bed availability for nearby hospitals and provide verified, actionable steps

## Supporting Objectives

A mobile and web platform that:

- Displays real-time hospital **bed availability** (ICU, ventilator, oxygen, general).
- **Tracks ambulances** and routes them optimally.
- Enables SOS + **bed reservation (soft hold)** in one click.
- Allows patient **record transfer** between facilities.
- Connects with wearables for **emergency sync** and alerts.
- Integrates AI-based **demand prediction**.



# HOW WE ARE DIFFERENT

Criteria	Govt. Portals/Hospital Websites/Google maps/Emergency Apps	Pulse Path
Real Time Bed Availability	Often Outdated/Partial	Yes (per ward type: ICU, Ventilator, Oxygen, General)
Verified Data From hospitals	Limited	Yes ( API + staff login + audit logs)
Bed Reservation/Hold system	No	Yes
Ambulance Integration	No	Yes (Live routing + hospital pre notification)
Data freshness Indicator	Sometimes	Visible + warning for stale data
Multi hospital Search and filter	Only in Govt Network	Yes
Analytics Dashboard	Limited	Bed trends, heatmaps, demand

# Tech Stack & Architecture:

## Mobile App

Flutter / React Native

## Backend

Node.js / Django / FastAPI

## Database

PostgreSQL / Firebase

## APIs

REST + WebSockets for real-time updates

## Maps

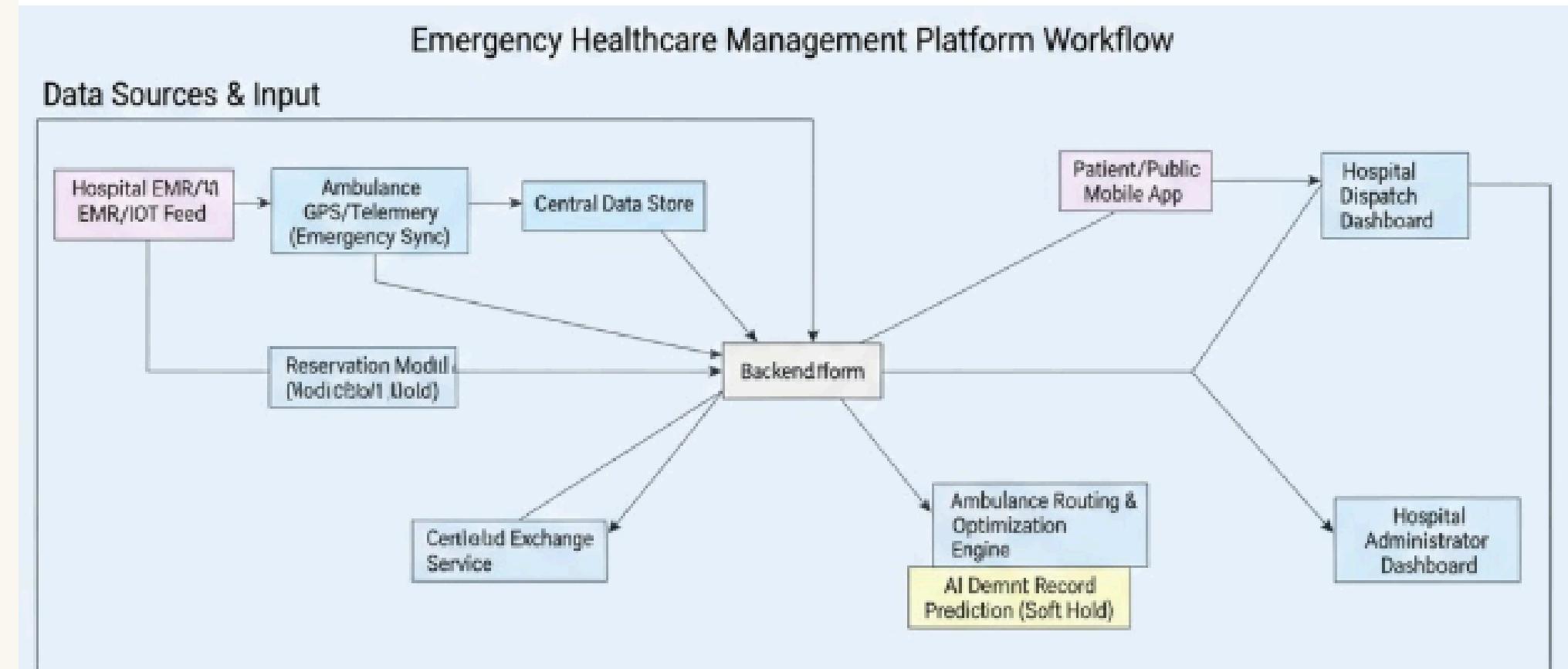
Google Maps

## Authentication

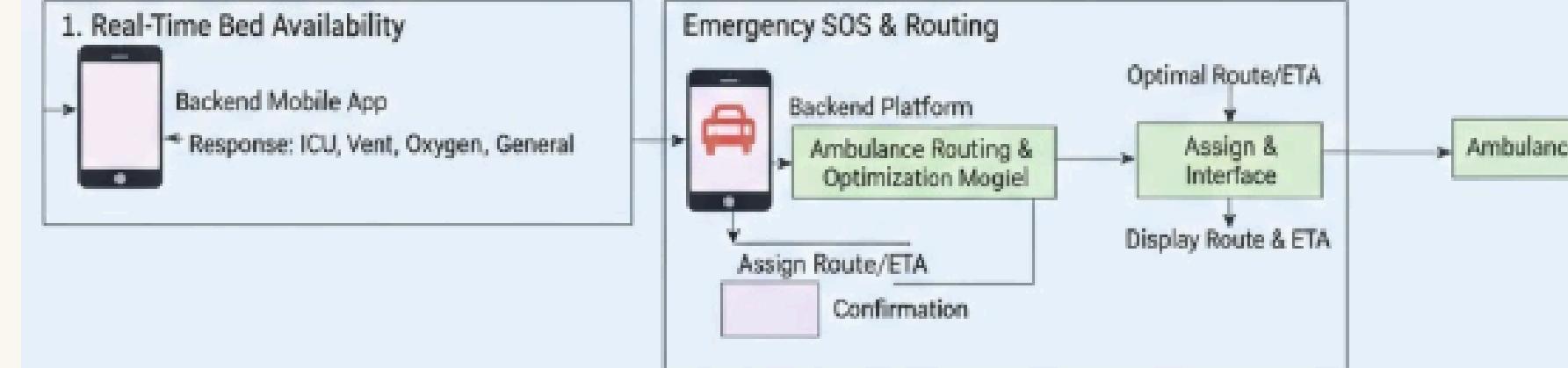
OAuth + Hospital ID Login

## Hosting

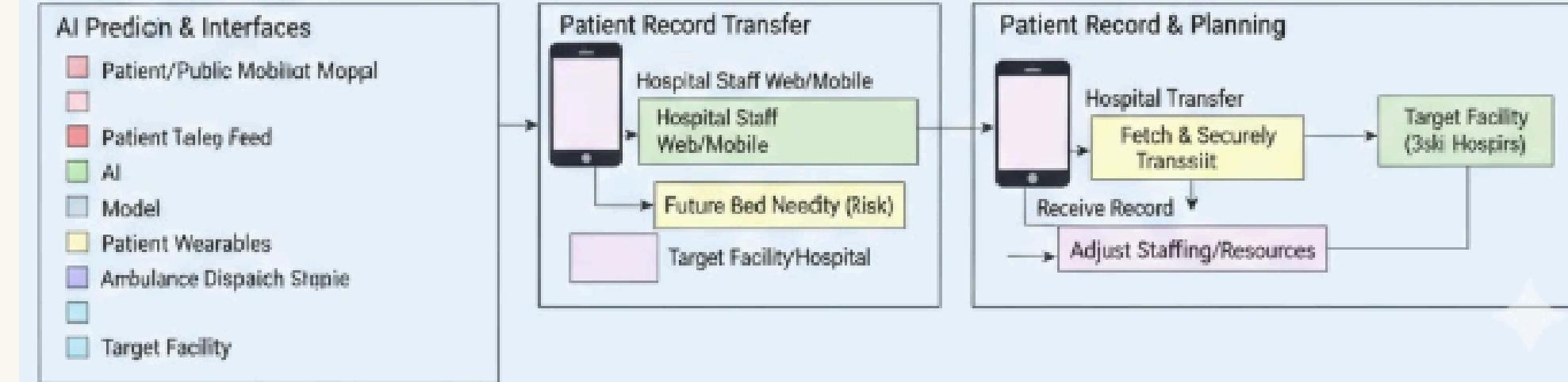
AWS / GCP / Azure



## Core User Workflows



## Outputs & Interfaces



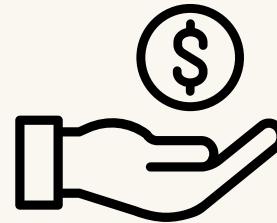
# Hospital Onboarding & Incentives

1



**Incentives to hospitals:**  
improved patient flow, reduced triage calls, faster ambulance handoffs, analytics for capacity planning, fee-free basic listing.

2



**Monetization options:**  
premium analytics dashboard, priority listing for private hospitals (ethical caution required), ambulance integrations (B2B).

3



**Onboarding flow:**  
sign-up → KYC upload → phone + email verification → trial mode (manual updates) → API keys issuance after verification.

## Monetization & sustainability

- *Freemium model for hospitals: basic listings free; paid analytics/reporting.*
- *Public funding/sponsorship for emergency-critical services or government contract.*
- *Value-added B2B features*



# THANK YOU

