

AI STAFFING AGENT

AN IDEA THAT REVOLUTIONISES THE HEALTHCARE SECTOR

by **Techbit Solutions**

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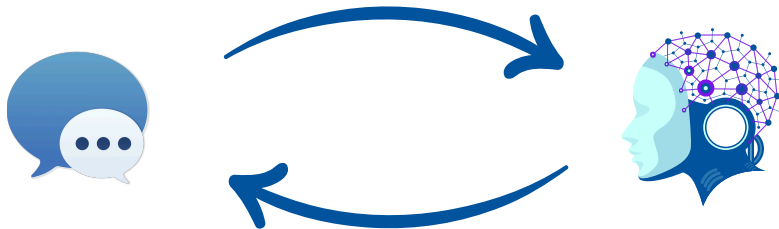
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OBJECTIVE

And so, the journey started

HEALTHCARE STAFFING IS AT A BREAKING POINT. COORDINATORS ARE JUGGLING LAST-MINUTE SHIFTS, CALLING DOZENS OF NURSES, AND MANUALLY TRACKING AVAILABILITY – LEADING TO INEFFICIENCY, BURNOUT, AND LOST REVENUE.

The AI Staffing Platform transforms this chaos into clarity. By combining an intelligent SMS/iMessage AI Agent with a powerful admin dashboard, that enables real-time shift creation, automatic nurse notifications, and seamless scheduling all without installing a single app.



Magic happens when AI meet Healthcare

This is a solution that serves as an AI Staffing Platform that simplifies healthcare shift scheduling using intelligent message-based conversations via SMS/iMessage. It helps coordinators manage shifts efficiently while giving nurses the freedom to accept jobs with a simple reply. Backed by a real-time admin panel, this solution improves response times, reduces admin burden, and ensures optimal nurse allocation all through smart automation.

With **75%** less admin time, **90%** nurse response rates, and 2x faster shift fulfillment, this solution empowers your facility to focus on care, not chaos.

**NO APP
SOLUTION**

INDUSTRY CHALLENGE

Why This Platform Is Urgently Needed

We are not just building a product, We're solving urgent problems

Why Manual Staffing Is Broken?

MANUAL SHIFT COORDINATION (CALLS, SPREADSHEETS)

Wastes **3–4** hours/day per coordinator

LAST-MINUTE CANCELLATIONS

20% of shifts go unfilled, risking patient care

OVER-NOTIFYING NURSES

70% of nurses ignore shift messages not relevant to them

APP FATIGUE

1 in 3 healthcare workers refuse to download another scheduling app

Industry Data

- **67% of healthcare organizations** report frequent last-minute shift changes (Source: Becker's Hospital Review)
- 30–40% of **nurse turnover** is attributed to poor communication and burnout (Source: Journal of Nursing Management)
- **Text/SMS** open rate is 98%, vs. 20–30% for mobile app notifications or emails (Source: Twilio)
- **Facilities spend 25–30%** of admin time just coordinating staff (Source: MGMA)

SOLUTION

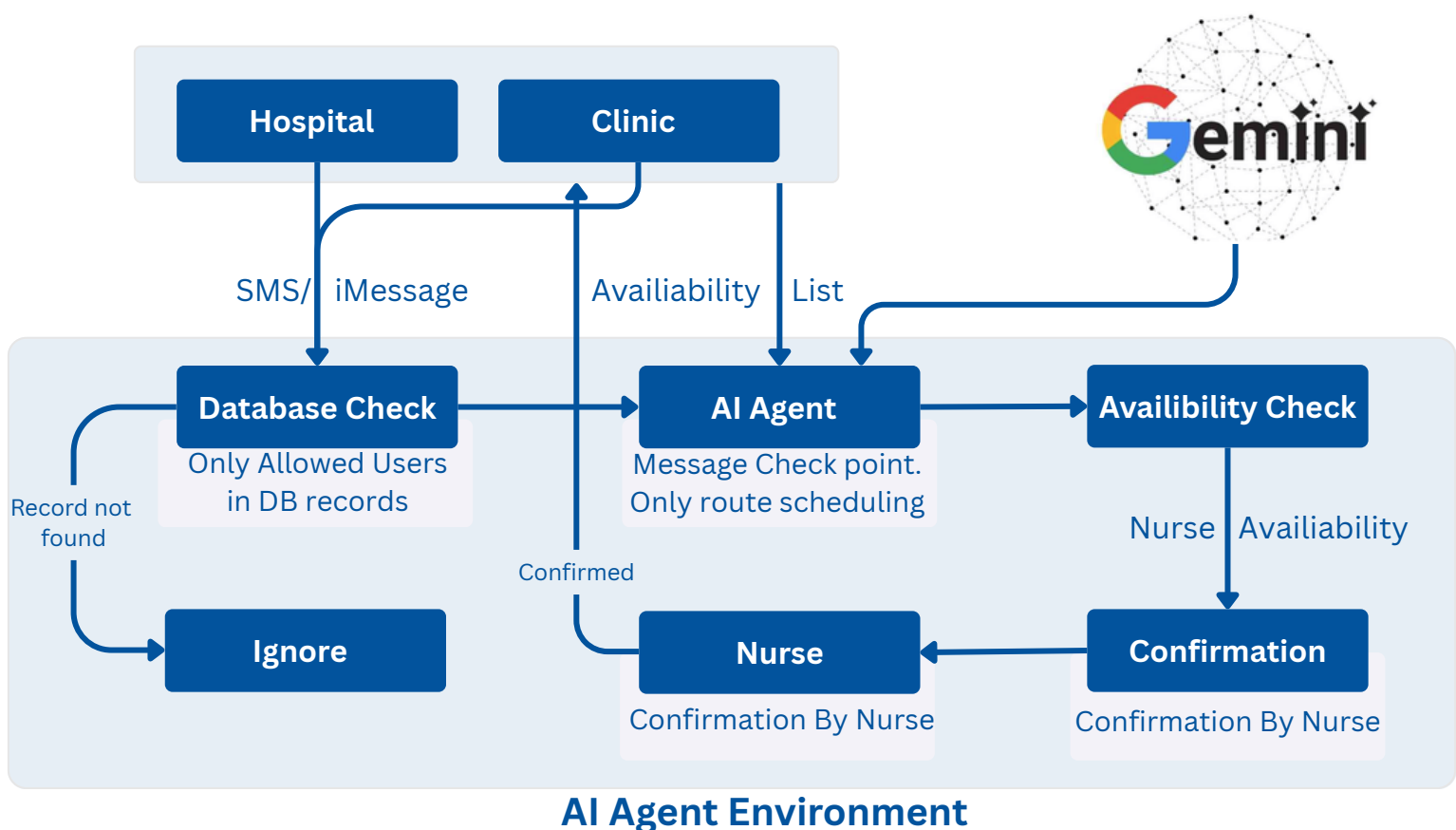
No calls. No apps. No chaos

SMARTER STAFFING SEAMLESS SCHEDULING

Platform simplifies healthcare shift scheduling through a smart, app-free system. Coordinators use AI Agent-Fast via SMS or iMessage to create and manage shifts instantly. Nurses receive schedule in real time and can accept with a simple reply, enabling rapid staffing without delays.

The system strictly supports only verified hospitals and clinics saved in the database, ensuring secure, authorized access. A centralized Admin Panel provides full control over facilities, staff, and schedules with live updates and role-based access.

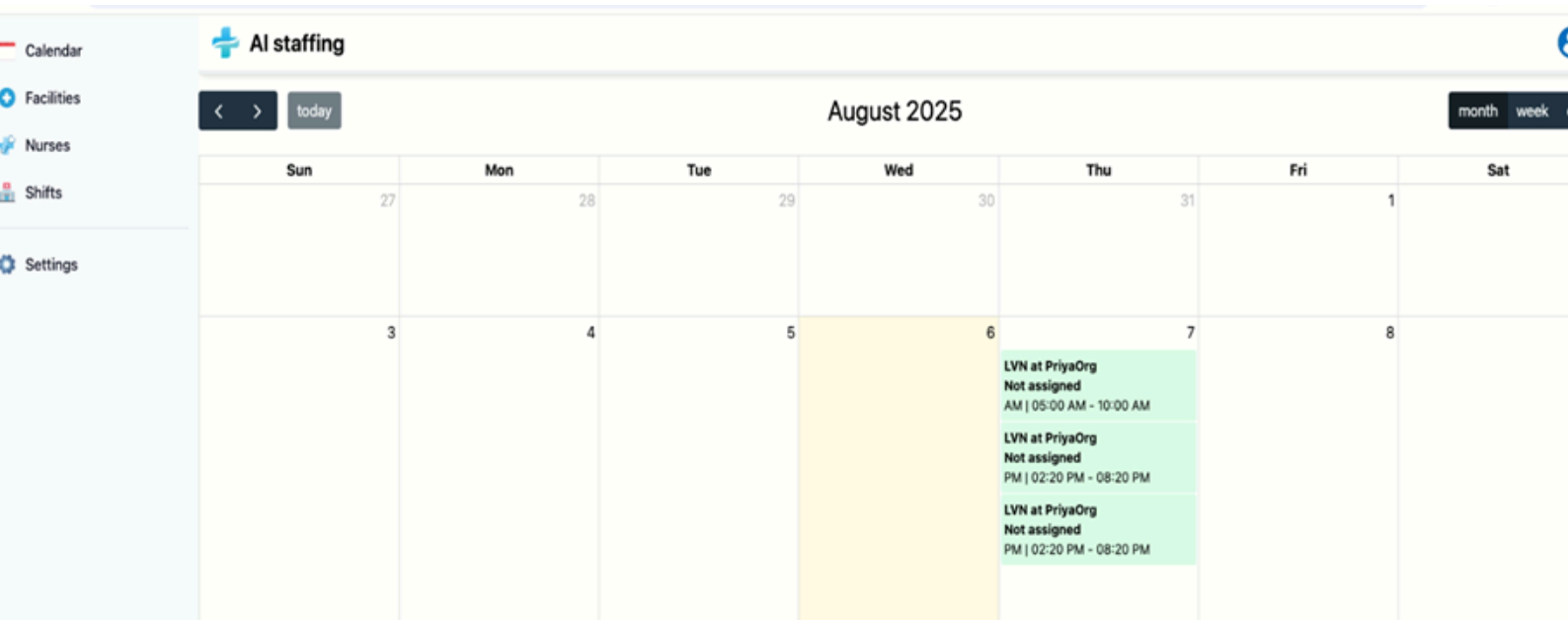
Solution we built cuts admin time by up to 75% and fills shifts twice as fast—making healthcare staffing efficient, accurate, and stress-free.



ADMIN PANEL |

Nurse Schedule Management

The Admin Panel is a centralised web-based dashboard for managing and monitoring the complete staffing workflow of the AI Staffing System. It complements the conversational AI Agent (AI Agent-Fast) by offering full control over back-office operations, ensuring smooth functioning of healthcare staffing through manual and automated tools.



Panel was specifically designed for back-office administrators to ensure operational accuracy, manage real-time data, and maintain seamless interaction across all staffing components.

Facility Management

- Administrators can create, update, or delete healthcare facilities

Nurse Management

- Full CRUD (Create, Read, Update, Delete) operations are supported for nurse profiles

Shift Management and Calendar View

- Shifts can be created manually from the admin panel, specifying
- The panel provides a comprehensive calendar interface that visually displays all created shifts

Real-Time Sync with AI Agent

- All changes made in the admin panel (shift creation, nurse updates, coordinator assignments) are reflected instantly in the AI Agent-Fast system.

- This ensures data consistency across both interfaces and prevents discrepancies in scheduling.
- Real-time synchronization is maintained through backend services that handle atomic transactions and conflict resolution logic.

Notification Management

- Shift remains open beyond a defined threshold, and the system allows broadcasting to a wider nurse pool to maximize fulfillment chances.
- Notification delivery is coordinated through integrated SMS/iMessage systems, ensuring timely communication.

Platform Allows Administrator To:

Maintain up-to-date facility and nurse records
Visualize and manage shift bookings
Facilitate efficient coordination between stakeholders
Ensure accurate and prompt shift notifications
Seamlessly sync with the AI Agent interface for consistent operations

What It Means for the Client

App-Free AI Agent via SMS/iMessage	10x faster onboarding – staff use what they already know
Proximity-Based Nurse Filtering	Reduces irrelevant notifications by 70%
Real-Time Shift Status Tracking	Admins always know which shifts are pending, filled, or at risk
Calendar View in Admin Panel	Visual clarity into staffing gaps – plan better, avoid last-minute scrambling
Two-Way Sync (AI Agent ↔ Admin Panel)	Eliminate errors between manual and automated workflows
Smart Notifications for Unfilled Shifts	Improve fulfillment rate up to 2x using re-engagement nudges

THIS POWERFUL
SYSTEM BUILT USING



TECHNICAL CHALLENGES

Challenges that taught us valuable lessons

Interpreting Natural Language Commands (NLU)

Handling free-form text like “book RN shift tomorrow” was tricky due to inconsistent phrasing. Team built keyword-based parsing with fallback logic to extract shift type, date, and nurse role accurately.

Input Validation & Error Handling

The AI Agent had to handle invalid dates (e.g., Feb 30), past dates, and incorrect nurse types. The team worked on strict yet conversational validation to ensure smooth user interaction without breaking the flow.

Real-Time Nurse Proximity Filter

To notify nurses within a 10-mile radius, the team implemented geolocation filtering using precise distance calculations. Efficient filtering across large datasets was key to meeting performance requirements.

Admin Panel & AI Agent Sync

Keeping the admin panel and AI Agent in sync required real-time updates and conflict handling. The team built atomic transaction logic to prevent data mismatches or sync delays.

**AI STAFFING CUTS
SCHEDULING ERRORS BY 70%,
BOOSTING NURSE RESPONSE,
SHIFT FULFILMENT, AND
OPERATIONAL EFFICIENCY**



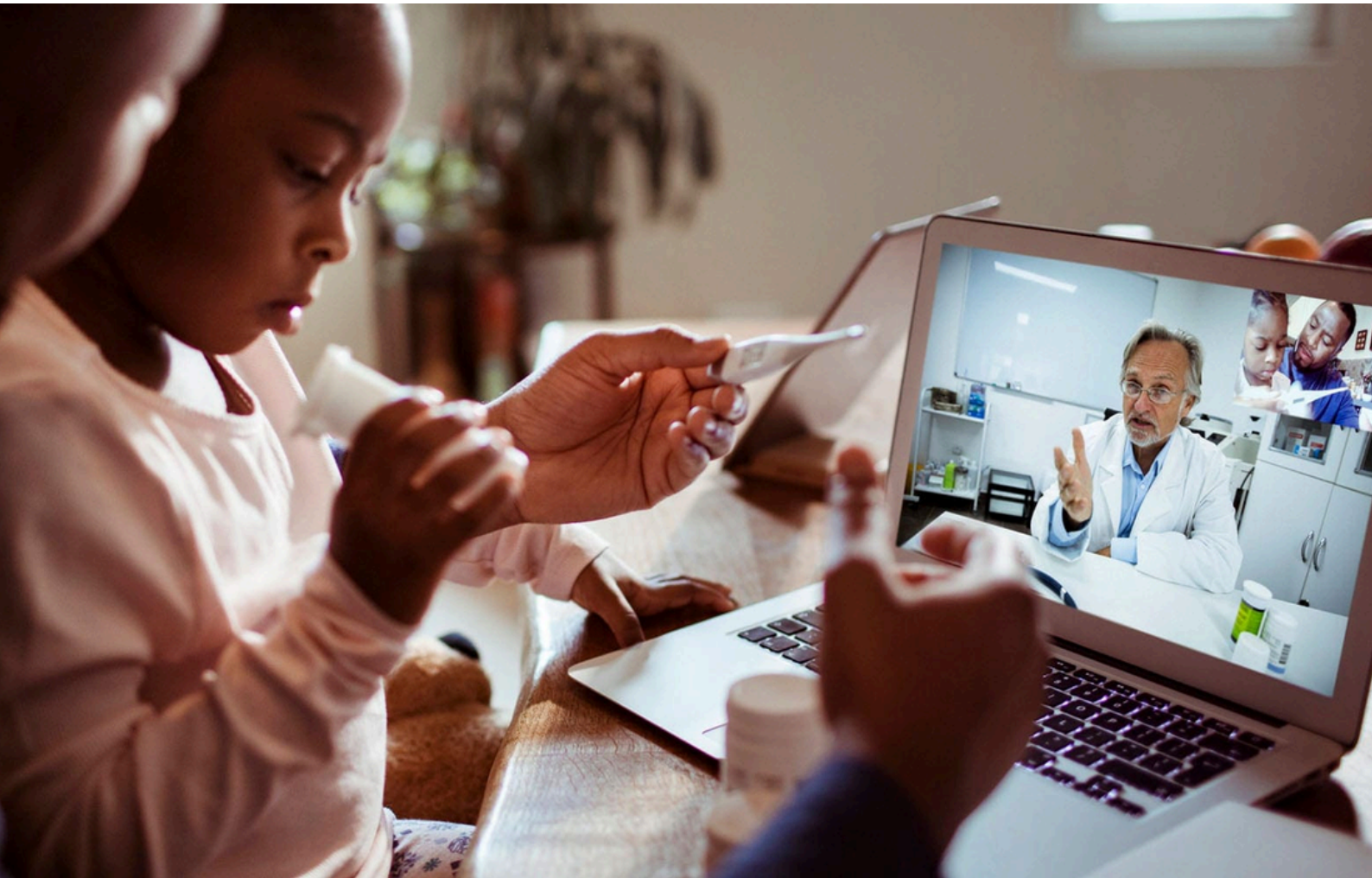
REAL IMPACT

The journey was tough, but the smiles made it worth it

Platform delivered measurable improvements across healthcare facilities by transforming how shift scheduling was handled. Previously, coordinators spent hours daily managing calls, texts, and spreadsheets. With the implementation of AI Agent-Fast, shift creation became as simple as sending a message. Coordinators could instantly schedule, update, or cancel shifts, while nurses received real-time notifications and responded directly—no app downloads, no logins, just simple texting.

This automation reduced administrative workload by up to 75%, allowing staff to focus on higher-priority tasks. Facilities reported a 50% improvement in shift fulfillment speed, minimizing last-minute gaps and reducing patient care disruptions. Because only verified facilities in the database could use the system, data security and operational control were maintained at all times.

- **75% reduction in administrative workload:** Coordinators no longer needed to make calls or manage spreadsheets manually. Shift management became instant and conversational.
- **2x faster shift fulfilment:** Most open shifts were filled in half the usual time, minimising last-minute scrambles and avoiding patient care disruptions.
- **Improved nurse response rates:** Only nurses within a 10-mile radius received notifications, leading to more relevant engagement and fewer ignored messages.
- **Increased accuracy:** The AI Agent validated dates, nurse types, and facility data to prevent errors and incomplete requests.
- **Higher security and control:** Only hospitals and clinics registered in the system's database were allowed access, ensuring verified users and compliance.
- **Better visibility for administrators:** The real-time admin panel allowed tracking shift statuses, managing users, and resolving issues proactively.



Where Idea Meets **I**nnovation

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