

AI-Powered Appointment System for a Med Spa Clinic

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1. PROJECT OVERVIEW

A solo-built demo project showcasing a production-quality appointment management system for a Med Spa clinic in the Philippines. It demonstrates how a single application engineer can deliver a complete, end-to-end automated system using modern no-code and low-code tools — without a full development team.

The system handles the full appointment lifecycle: online booking, AI-based staff and room assignment, automated SMS/email notifications, personalized post-visit follow-ups, and a cancellation waitlist that automatically backfills open slots.

2. TECH STACK

LAYER	TECHNOLOGY	PURPOSE
Frontend	Next.js 14, TypeScript, Tailwind CSS, shadcn/ui	Booking UI + Admin dashboard
Database	Supabase (PostgreSQL)	Appointments, staff, services, waitlist
Auth	Supabase Auth	Role-based access: Admin vs Staff
AI	Groq API	Staff assignment, room allocation, follow-up generation
Automation	Make.com	Triggers, webhooks, multi-system orchestration
SMS	Semaphore SMS	Booking confirmation + reminders (PH numbers)
Email	Resend	Confirmations, reminders, AI-generated follow-ups
Charts	Recharts	Admin analytics dashboard
Hosting	Vercel	Zero-config deployment, free tier

3. USER ROLES & PERMISSIONS

ROLE	ACCESS
Admin	Full dashboard — view all bookings, manage staff, view analytics, override assignments
Staff	View own schedule, mark appointments complete, update availability
Client	Public booking page — select service, pick date/time, receive confirmation

Permissions are enforced at the database level via Supabase Row-Level Security (RLS) policies, not just the UI.

4. CORE FEATURES

4.1 Online Booking Flow

- › Client selects service from available menu
- › Available time slots are shown in real time via Supabase Realtime
- › Groq AI evaluates staff expertise and room availability, then assigns the best match automatically
- › Client receives SMS (Semaphore) + Email (Resend) confirmation immediately

4.2 Automated Reminders

- › 24-hour reminder — SMS + email sent the day before the appointment
- › 1-hour reminder — SMS sent 1 hour before the visit
- › Both triggered by Make.com scheduled scenarios — no manual action required

4.3 Post-Visit AI Follow-up

- › Triggered when admin marks an appointment as Complete
- › Webhook fires to Make.com ' HTTP request to Groq API
- › Groq generates a personalized follow-up message in Taglish (Tagalog + English), referencing the specific service received
- › Resend delivers the email 2 hours after the appointment

4.4 Cancellation Waitlist Backfill

- › When a confirmed appointment is cancelled, a Make.com scenario fires automatically
- › Fetches cancelled slot details (service, date, time)
- › Iterator loops through all pending waitlisted clients for that same service and time window
- › Each matching client is automatically booked and notified — no slot goes to waste

4.5 Admin Dashboard

- › Live booking feed (Supabase Realtime — updates without page refresh)
- › Analytics charts: bookings over time, revenue trends, service popularity (Recharts)
- › Staff schedule view and manual override capability

5. MAKE.COM AUTOMATION SCENARIOS

Scenario 1 — New Booking Confirmation

Watches Gmail for incoming client replies to appointment emails. When a reply is detected:

1. Router evaluates the reply type (confirmation, question, reschedule request)
2. Searches Google Sheets for the client's booking record
3. Updates appointment status in the system
4. Pulls all relevant booking variables
5. Fires a confirmation email back to the client — fully hands-free

Scenario 2 — Post-Visit AI Follow-up

Triggered after a visit is marked complete in the admin dashboard:

1. Webhook fires from Supabase to Make.com
2. HTTP module sends a structured prompt to Groq API
3. Groq generates a personalized Taglish follow-up based on the service received
4. Resend schedules and delivers the email 2 hours post-visit

Scenario 3 — Cancellation Waitlist Backfill

Fires when a confirmed booking is cancelled:

1. Filter validates it's a real cancellation (not a status edge case)
2. HTTP call fetches the full cancelled slot details
3. Iterator loops through every pending waitlisted client for that service + time
4. Each matching client is automatically promoted, booked, and notified via SMS + email

6. INFRASTRUCTURE & COST

All infrastructure runs on free tiers:

SERVICE	FREE TIER LIMIT	USAGE
Vercel	Unlimited hobby deployments	Frontend hosting
Supabase	500MB DB, 50MB file storage	Full database + auth
Groq API	Free inference tier	AI assignments + follow-ups
Make.com	1,000 operations/month	All 3 automation scenarios
Semaphore SMS	Pay-per-use (PH rates)	SMS notifications
Resend	3,000 emails/month free	All email delivery

Total monthly cost for a small clinic: Near zero on free tiers, with SMS as the only variable cost.

7. BUSINESS VALUE

- › Eliminates double-bookings through real-time slot management
- › Reduces no-shows with automated 24h and 1h reminders
- › Increases client retention with personalized post-visit follow-ups
- › Maximizes revenue by automatically filling cancelled slots from the waitlist
- › Built entirely solo — demonstrating that one application engineer can deliver what typically requires a full team

8. SYSTEM ARCHITECTURE

Client Browser

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Next.js 14 Frontend (Vercel)

Supabase (PostgreSQL + Auth + Realtime)

appointments table

staff table

services table

waitlist table

Groq API

Staff + room assignment (LLM inference)

Make.com (Automation Hub)

Scenario 1 — Booking Confirmation

Scenario 2 — Post-Visit AI Follow-up

Scenario 3 — Cancellation Waitlist Backfill

Semaphore SMS

Resend (Email)

9. REPOSITORY

GitHub: <https://github.com/Adniel-sys/medspa-ai>

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