

Hospital Website & Serial Booking System

A bilingual (English and Bengali) website and patient-booking system for a mother-and-child hospital with 25 consultants. Patients book a serial number online, and reception issues numbers from the same table at the counter — so the two can never hand out the same number.

THE PROBLEM

No online booking, and a website that could not be updated without a developer. Booking had to fit how the chambers run: serial numbers, not appointment times.

WHAT I BUILT

A bilingual Nuxt and PostgreSQL platform where patients and reception claim serials from one queue, with role-based access, audit logging and SMS and email notifications.

THE RESULT

Built and ready for launch, pending the hospital's final information. Staff run consultants, schedules, fees and notices from the admin.

305

AUTOMATED TESTS

10

STAFF ROLES

20+

ADMIN SCREENS

~27.6k

LINES OF CODE

WHAT IT DOES

One queue, two channels

Online and counter bookings claim serials in a serializable transaction behind a unique index. The counter may overfill a sitting; the website may not; a walk-in reserve keeps room for in-person patients.

Audited, role-based access

10 roles and around 48 permissions, plus row-level scope for which doctors' patients a user may see — checked on the server, with every access and refusal logged.

Built to degrade

The emergency page is prerendered and cached to outlive the server. Missing configuration or a broken library breaks only the feature that depends on it.

Honest estimates

Each patient is told when their own serial is expected. A cancelled booking keeps its number, so two paper slips never show the same serial.

Notifications that never block

Email and SMS through three gateways, credentials encrypted at rest. A failed message never fails a booking; it lands on reception's call list.

Bilingual, including the data

Consultants, specialties and content are stored in both languages. Uploads are checked by extension, type and file signature; private files are unreachable publicly.

MY ROLE

Designed, built and coded the whole system — booking model and allocator, access control and audit, notifications, bilingual data model, media pipeline, admin and staff tools — and the Docker deployment with its runbook and restore drill, plus the technical overview and plain-language staff guides.

STACK

Nuxt 4 Vue 3 TypeScript PostgreSQL
Prisma 7 Tailwind CSS Zod sharp
SMTP · SMS Docker Vitest

MD Morsalin

Contract software engineer · SaaS, cloud infrastructure & AI
Part-time or contract · remote · US Eastern Time

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