

NABDH: CTO Ready UI & System Architecture Blueprint

(Doctor Portal V1 | Arabic Clinical AI Layer)

1. Core Design Principles (Non Negotiable)

These principles MUST guide every UI and architecture decision:

1. NABDH is a layer, not a system
 - No EMR replacement
 - No patient facing UI
 - Everything plugs into existing workflows
 2. Doctor speed > beauty
 - Reduce clicks
 - Reduce typing
 - Reduce cognitive load
 3. Arabic-first clinical reality
 - Arabic UI labels
 - Arabic speech
 - GCC clinical phrasing
 4. Regulatory safety by design
 - Audit logs
 - AI disclosure
 - Edit tracking
 - UAE data residency
-

2. Visual Identity (UI Direction)

Color palette (calm, clinical, trusted):

- Primary: Medical Green (#1F7A6B)
- Secondary: Soft Olive (#A7C7B7)
- Background: Clean White (#FFFFFF)
- Alerts:
 - Safety warning: Amber

- Critical red flag: Muted red (never aggressive)

Typography:

- Arabic: IBM Plex Arabic / Noto Arabic
- English fallback: Inter
- Large readable font sizes (doctors, gloves, fatigue)

Design style:

- Flat
 - No shadows
 - No animations except loading states
 - Minimal icons, clinical symbols only
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3. Doctor Portal V1: Screen by Screen UI

3.1 Login & Consent Screen (Mandatory)

Purpose: Legal protection + trust

Elements:

- Email / Password
- Consent checkbox:
“AI assists documentation. Final responsibility remains with the physician.”
- Privacy link
- Data residency note: “Data stored in UAE”

✓ Required by compliance

3.2 Dashboard (Zero Noise)

What doctors see immediately:

- “Start New Visit” (Primary CTA)
- Today’s visits (optional list)
- Time saved this week (motivation metric)

What is NOT shown:

- Analytics charts
 - Admin clutter
 - Notifications
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3.3 Clinical Recorder (CORE SCREEN)

This is the heart of NABDH.

Layout (left → right):

LEFT PANEL

- Start / Pause / Stop recording
- Timer
- Language indicator (Arabic)

CENTER PANEL

- Live Arabic transcript (real time)
- Speaker labels (Doctor / Patient)
- Auto-save indicator

RIGHT PANEL

- Safety alerts (real time)
- Red flag highlights
- Missing information prompts

✓ Directly maps to ASR + safety engine

3.4 SOAP Builder (AI + Human Control)

Tabbed layout:

- S | O | A | P

Each section:

- Pre-filled by AI
- Fully editable
- Highlighted AI-generated text

Right-side panel:

- “Why AI suggested this” (explainability)
- Safety notes
- Insurance relevance tags

✓ Required for insurance automation

3.5 Clinical Summary Module

Auto-generated:

- Visit summary
- Referral summary
- Medical history snapshot

Export options:

- PDF
 - Structured JSON (for EMRs / insurers)
-

3.6 Insurance Assistant (V1)

Visible only after SOAP is complete

Shows:

- Eligibility checklist
- Pre-auth draft
- Claim narrative
- Missing items warnings

Color coding:

- Green: ready
- Amber: incomplete
- Red: high rejection risk

✓ Biggest differentiator of NABDH

3.7 Audit & AI Log (Hidden but mandatory)

Tracks:

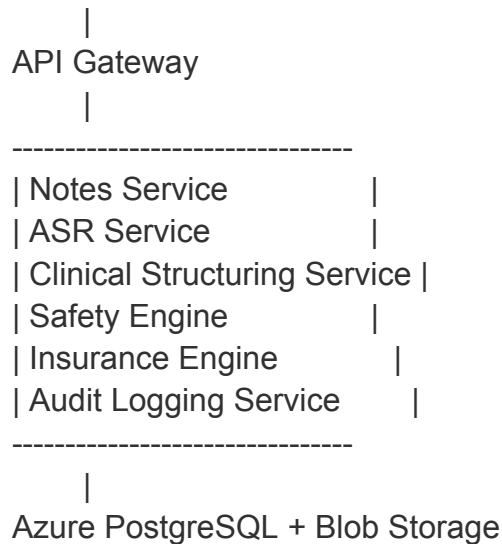
- Every AI action
- Every doctor edit
- Timestamped logs
- Exportable for regulators

✓ Regulatory protection layer

4. System Architecture (CTO Execution Map)

4.1 High-Level Architecture

Frontend (React / Next.js)



✓ Microservices, acquisition-ready

4.2 AI Pipeline (Exactly as CTO should build)

1. Audio → Arabic ASR
2. Transcript → SOAP structuring
3. SOAP → Safety checks
4. SOAP → Summary
5. SOAP → Insurance drafts

6. All actions logged

✓ Matches MVP scope exactly

4.3 Security & Compliance (Do NOT skip)

- Azure UAE region only
- Role-based access
- Encrypted storage
- No external LLM APIs
- Full audit trail

✓ Required for pilots & acquisition

5. What the CTO Should Build FIRST (Priority Order)

Week 1–2

1. Backend skeleton
2. Recorder UI
3. Transcript view

Week 3–4

4. SOAP builder
5. Safety engine integration

Week 5

6. Insurance drafts
7. Audit logs

This sequencing is exactly aligned with your roadmap and budget

6. What NOT to Build (Protect NABDH)

- ⊘ Patient app
- ⊘ EMR replacement
- ⊘ Fancy dashboards
- ⊘ Advanced diagnostics
- ⊘ Over-designed UI

These kill speed, budget, and acquisition readiness.