PRD — ICHS/ICCD Umrah AI Search Kiosk (Makkah Halal Forum, T-22 days)

1) Product summary

A touch-screen kiosk experience that **looks and feels like an AI search tool** and provides **Saudi-official guidance** for **Umrah rituals + Nusuk permits + Rawdah** in **English, Arabic (Fusha, RTL), and French**. It includes a visually impressive "Tayyib in Ihram" animated presence, a guided checklist flow, a photo pose mode for shareability, and lightweight session feedback/analytics—without introducing operational risk on event day.

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2) Goals

1. **AI search impression**
    - Search-first UI with "searching" state + **results/snippets** + structured answers with **official-source citations**.
2. **Reliability on event day**
    - Local-first operation, offline/low-connectivity degradation that still looks intentional.
3. **Saudi-official alignment**
    - Answers grounded in a curated set of Saudi official sources; **avoid madhhab comparisons**.
4. **Trilingual UX**
    - Fully trilingual UI; Arabic **RTL**; Arabic output in **Fusha**.
5. **High-impact visual presence**
    - Tayyib (2D "3D-look" video loops) in Ihram; photo-worthy pose mode.

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3) Non-goals / out of scope

- Hajj-only guidance
- Legal/visa guidance
- Medical guidance and diagnosis
- Automated actions inside Nusuk (no login/booking automation; informational guidance only)
- Voice output (text-only)

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4) Target users

- Forum attendees: first-time and repeat pilgrims, mixed languages.
- Delegates seeking quick clarification on rituals/permits/Rawdah.

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5) Core experiences and user journeys

A) Ask (AI Search Mode)

1. User selects language (EN/AR/FR).
2. User types question (touch keyboard).
3. System shows “Searching…” and displays 3–5 **result cards** (snippets).
4. System outputs an answer with:
    - Short direct answer (2–4 lines)
    - Steps/checklist
    - Common mistakes (1–3 bullets)
    - “Sources” expandable (official)
5. User optionally taps refinement chips (e.g., “Miqat by air”, “Rawdah permit steps”).

B) Guide (Checklist Mode)

1. User answers a short wizard (max 5–7 prompts).
2. Kiosk produces:
    - On-screen full checklist
    - QR link to open **checklist only** on phone (stateless payload, no retention)

C) Photo Pose Mode

1. Full-screen Tayyib in Ihram with a “stand here” silhouette.
2. Countdown → pose variation.
3. Optional QR to open a branded “pose frame” page for easy screenshot/share.
4. **event hashtag/QR baked into frame**

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6) Functional requirements

6.1 UI / UX

- Fully trilingual UI (all labels/buttons in EN/AR/FR)
- Arabic RTL layout; Arabic copy in **Fusha**
- Touch-first layout; large tap targets; no scrolling in primary flows
- Two responsive layouts:
    - **Vertical preferred**
    - Horizontal fallback (auto-layout)
- Attract loop mode when idle (returns to home after inactivity)

6.2 Tayyib avatar media

- 2D short-loop videos (6–10s) with consistent identity and Ihram outfit:
    - Idle
    - Listening/typing

    - Searching/thinking
    - Explaining (2 variations)
    - Photo pose (2 variations)
- State switching tied to UI states (Idle → Listening → Searching → Answering → Pose)

6.3 Answering system (Saudi-official grounding)

- Primary: **RAG** over a curated, ICCD-stakeholder-approved Saudi official source set.
- Secondary: **Offline Answer Pack** for top FAQs + fast fallback.
- Answer formatting rules:
    - Avoid madhhab comparisons
    - No “fatwa” tone; informational + disclaimer
    - Must cite official sources (expandable)
- Clarification behavior:
    - If insufficient grounding, ask **at most one** clarifying question.
    - If still insufficient: safe fallback (“Not covered in official pack”) + suggest general official next step.

6.4 Nusuk permits + Rawdah coverage

- Include informational guidance for:
    - Where permits are obtained (Nusuk)
    - High-level steps and common issues (non-account-specific)
    - Rawdah visit permit guidance (informational)

6.5 QR checklist sharing (no retention)

- Generate QR that opens `/share#d=<payload>`
- Payload contains a compact checklist (checklist only; no sources)
- No server-side storage of the checklist
- Language switching on share page: **optional**; default is “same language as generated checklist” to reduce complexity

6.6 Feedback + analytics (session-based)

- No raw question text stored during public event.
- End-of-session prompt:
    - **1–5 star rating**
    - Optional “quick reason” category if ≤2 stars (single-tap)
- Track:
    - Session count
    - Mode usage
    - Ratings distribution
    - Time-on-screen (session duration)
    - Route usage (offline vs RAG vs fallback)
    - Latency metrics

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7) Non-functional requirements

Performance

- Offline answer response: target <2s
- RAG answer response: target <4s median (hard timeout at 8s → fallback)
- No UI jank; stable 60fps animations where possible

Reliability / “no hiccups”

- Local-first operation; kiosk continues to function if internet degrades
- Automatic return to home after inactivity
- Hidden admin panel:
    - Health check
    - Export analytics
    - “Offline simulation” toggle
    - Reset app

Accessibility

- High-contrast readable typography (no glare expected but still readable at distance)
- Large touch targets; minimal typing requirement (chips/refinements)

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8) Content governance (ICCD stakeholder sign-off)

- A “Saudi Official Sources Pack” list maintained with:
    - Source URLs / documents
    - Version date
    - ICCD stakeholder approver (name + date)
- Only approved sources are ingested into RAG and referenced in answers.
- Out-of-scope questions handled with a consistent refusal/fallback template.

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9) Technical approach (choices locked for build)

Model + embeddings

- OpenAI Responses API for generation using **GPT-4o**
- Embeddings: **text-embedding-3-large**

Vector storage (reliability-first)

- **Local embedded vector store (Chroma)** to minimize day-of operational dependencies (no Docker requirement)

Storage

- Local SQLite for analytics/events (no sensitive PII; no raw question text)

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10) Acceptance criteria

- Touch kiosk UI works in EN/AR/FR; Arabic RTL correct; Arabic in Fusha
- Ask Mode:
  - shows “searching” state
  - shows 3–5 result cards with snippets
  - structured answer + expandable sources
- Guide Mode:
  - produces on-screen checklist + QR opens checklist page (no storage)
- Photo Pose Mode:
  - pose loop + countdown + framing overlay; no hashtag/QR forced on frame
- Analytics:
  - session count, mode usage, ratings, time-on-screen exportable
- Offline behavior:
  - kiosk remains usable using offline pack + graceful degradation

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12) Open items (won’t block build; design around)

- Final kiosk hardware specifics (single screen vs controller; resolution; vertical vs horizontal confirmed later)
- Final branding kit specifics (ICHS logo placement rules, colors, typography)

Next steps (per your checklist order)

1. **Design Doc (Step 2):** screen-by-screen layout for vertical + horizontal fallback, typography scale, RTL rules, animation states, and branding placeholders (ICHS).
2. **Technical Rules (Step 3):** repo structure, environment variables, API contracts, logging policy, error handling rules, translation/glossary rules.
3. **todo.md (Step 4):** prioritized implementation tasks with checkpoints aligned to the milestone plan.
4. **Git workflow (Step 5):** branching rules + commit conventions + release tags.
5. **GitHub + CodeRabbit (Step 6):** PR checklist + review gates.