Business Requirements Document

HumanityAI'd Museum AR Smart Glass Guide — v1.0

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1. Executive summary

HumanityAI'd has built and internally deployed a complete AR smart-glasses museum guide: visitors look at an exhibit and hear a professional narration in their own language, hands-free, within ~1.5 seconds — powered entirely by an on-premises AI server that never sends visitor data to the cloud. This BRD defines the business case, stakeholders, and requirements for taking the product to Middle East cultural institutions, beginning with flagship museums in the UAE.

2. Business opportunity

- The GCC is executing the largest museum-building programme in the world (Saadiyat Cultural District, Diriyah, AlUla, Lusail/Qatar Museums expansion, Grand Egyptian Museum). Cultural-tourism KPIs are written into Vision 2030 (KSA) and Tourism Strategy 2031 (UAE).
- Flagship museums serve intensely multilingual audiences (Louvre Abu Dhabi alone attracts visitors from 190+ nationalities) but guided interpretation is typically limited to 2–4 languages and fixed schedules.
- Government buyers in the region place a premium on **data sovereignty**: an on-prem AI product with zero cloud dependency clears procurement hurdles that SaaS competitors cannot.
- AR glasses have crossed the comfort threshold (RayNeo X3 Pro: ~76 g, all-day battery in tour usage), making hands-free interpretation operationally viable for rental fleets.

3. Business objectives

#	Objective	Measure (12 months)
O-1	Land 2 paid POCs at GCC museums	Signed POC agreements
O-2	Convert ≥ 1 POC into an annual licence	ARR ≥ USD 250k
O-3	Establish reference case study with a flagship institution	Public or private reference approved
O-4	Build partner channel (AV integrators, tourism boards)	2 signed reseller/integration partners

4. Stakeholders

Stakeholder	Interest
Museum director / CEO	Visitor experience, differentiation, press value

Stakeholder	Interest
Digital transformation / innovation dept.	Data sovereignty, integration, KPIs
Curatorial team	Content control, approval workflow, languages
Visitor operations	Device logistics, hygiene, throughput
Procurement / IT security	On-prem architecture, compliance, TCO
HumanityAI'd	Licence + hardware + support revenue; reference accounts

5. Business requirements

- B-1 The solution shall run fully on customer premises with no mandatory internet egress (offline-capable after installation).
- B-2 The solution shall support a minimum of 8 visitor languages at launch, including Arabic, with expansion to 23 without re-architecture.
- B-3 Content staff shall be able to enrol a new exhibit (photos → text → narration in all languages) in under 10 minutes without vendor involvement.
- B-4 All AI-generated narration shall pass a human approval step before being served to visitors.
- B-5 The system shall produce engagement analytics (per-exhibit dwell, audio play-through, tour completion) exportable for museum KPI reporting.
- B-6 The offering shall be priced as licence + hardware + annual support, structured to fit government procurement cycles (RFP-friendly, CAPEX-heavy option available).
- B-7 The glasses fleet shall be manageable by front-desk staff (issue, reset, collect) with no technical training beyond a 1-hour induction.
- B-8 Deployment on a single GPU server shall support at least 25 concurrent visitors; scale-out path documented for 100+.

6. Revenue model

Stream	Structure	Indicative pricing
Software licence	Annual, per-site + per-100-exhibits tier	USD 120k–300k / yr
Hardware	Glasses fleet (rental units), GPU server, charging/hygiene station	USD 700–900 / unit + USD 15k server
Implementation	Site survey, installation, content onboarding of first 100 exhibits	USD 40k–80k one-off
Support & content services	SLA tiers; optional narration authoring service	18–22% of licence / yr

7. Constraints & assumptions

- Single-GPU (8 GB) reference server is sufficient for recognition serving; narration generation is an offline/admin activity (validated in internal pilot, July 2026).
- Museum provides dedicated Wi-Fi SSID with adequate AP coverage in galleries.
- Glasses vendor (RayNeo) supply chain — 6–8 week lead time for fleet orders; app design keeps the vendor SDK isolated for portability.
- Content IP: museum retains full ownership of texts, images, and generated audio.

8. Risks

Risk	Likelihood	Impact	Mitigation
Long procurement cycles (government)	High	Medium	POC-first motion; partner with tourism boards; RFP-ready document kit
Competitor with cloud AR app undercuts on price	Medium	Medium	Lead with sovereignty, hands-free UX, and multilingual TTS depth
Hardware breakage/loss in rental fleet	Medium	Low	Spare-unit ratio 10%, insurance line in contract
AI narration quality concerns from curators	Medium	Medium	Human approval workflow (B-4) + optional professional voice recording service

9. Proof point

Internal production pilot (July 2026): 10-exhibit office museum, 12 enrolled photos, 80 approved narrations across en/ar/fr/es/zh/ru/hi/de, running on one RTX 4060 Ti alongside two other production AI workloads. Exhibit enrolment to live narration: < 5 minutes.