

PARM

Portsmouth Augmented Reality Museum

A scalable AR experience to improve museum visits

Pilot case study: Sherlock Holmes Gallery
(Portsmouth Museum & Art Gallery)

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Why Sherlock Holmes Was The Perfect Pilot

- Strong theme + storytelling potential
- Current experience is mainly glass cases + text
- Visitors often glance → skim → move on
- Clear opportunity to show what PARM adds



Key Research And Audience

Methods

- Interviews (n=3)
- Survey (n=19)
- In-museum observation
- Secondary research

Audience + Ethics

Designed for all museum visitors (all ages).
Research participants were 18+ only (ethics).

Why These Methods

Interviews = Depth

Survey = Patterns

Observation = Real Behavior

3 Insights That Apply Across Museums

Text Gets Skimmed

People skim long text → meaning gets lost

Interaction Must Fit

Visitors want interaction, but it must stay museum-friendly

Depth Should Be Optional

Needs vary → casual vs enthusiasts

Design Goals (What PARM Must Achieve)

- Turn long reading into short story moments (audio + visuals)
- Keep interaction simple + repeatable across exhibits
- Support different visitors with optional depth
- Work for all ages (guided, low effort)



PARM System



Access options

- PARM Glasses (museum device): proximity-triggered story moments
- PARM Companion (phone): QR scan / manual selection (prototype trigger)
- Both deliver: AR story + audio (multi-language ready)



Process Tools

Affinity map • Personas • Storyboard • Interaction flow • Prototype videos

How PARM Works In Any Gallery

Visitor loop

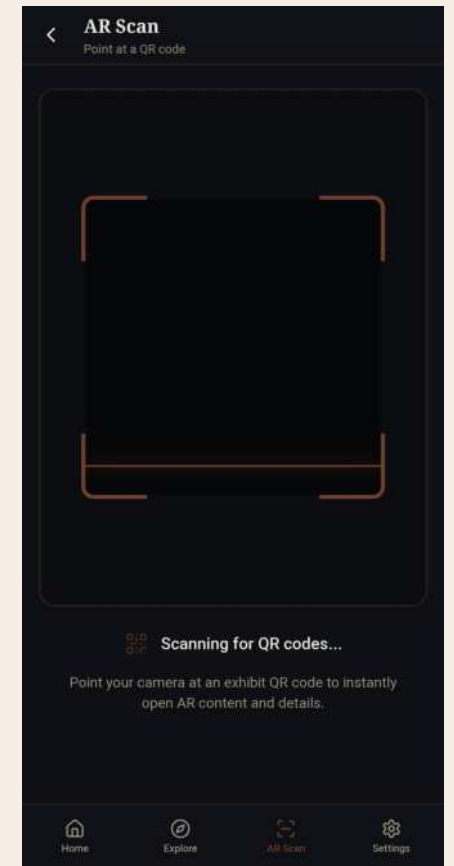
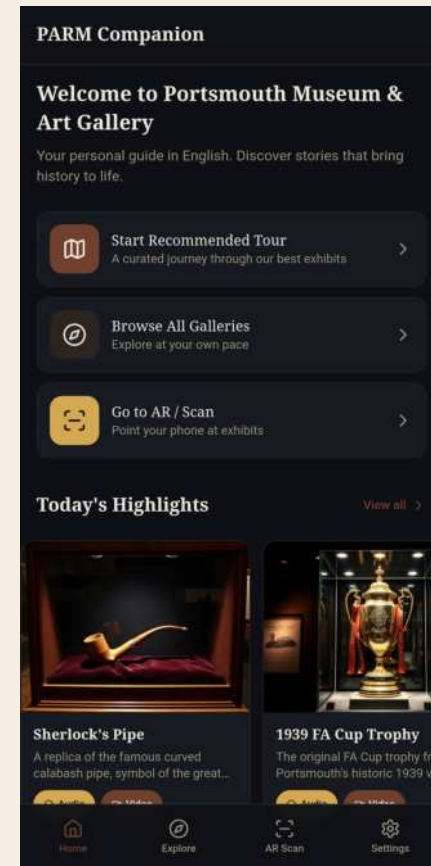
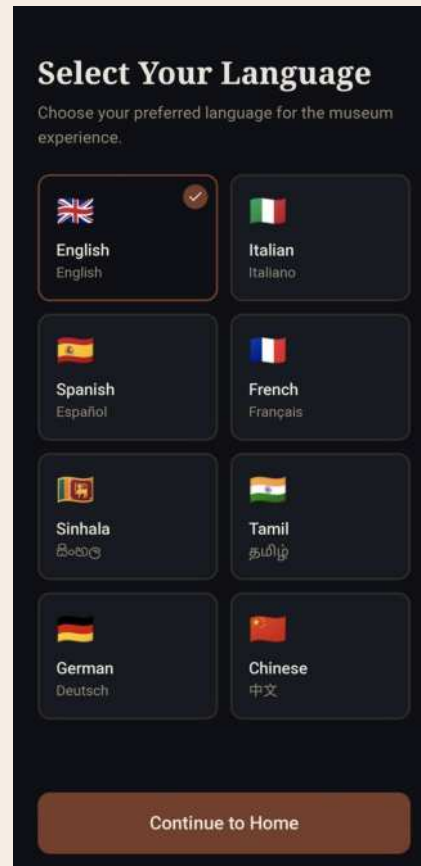
- Choose language
- Approach / Scan exhibit
- Story plays in AR view while looking at the artefact
- Move to the next artefact



Prototype Highlights

The 3 moments that matter

- Start / Language (clarity + accessibility)
- Scan / Trigger (fast and obvious)
- AR View (short story moment over the real exhibit)



PARM GLASSES

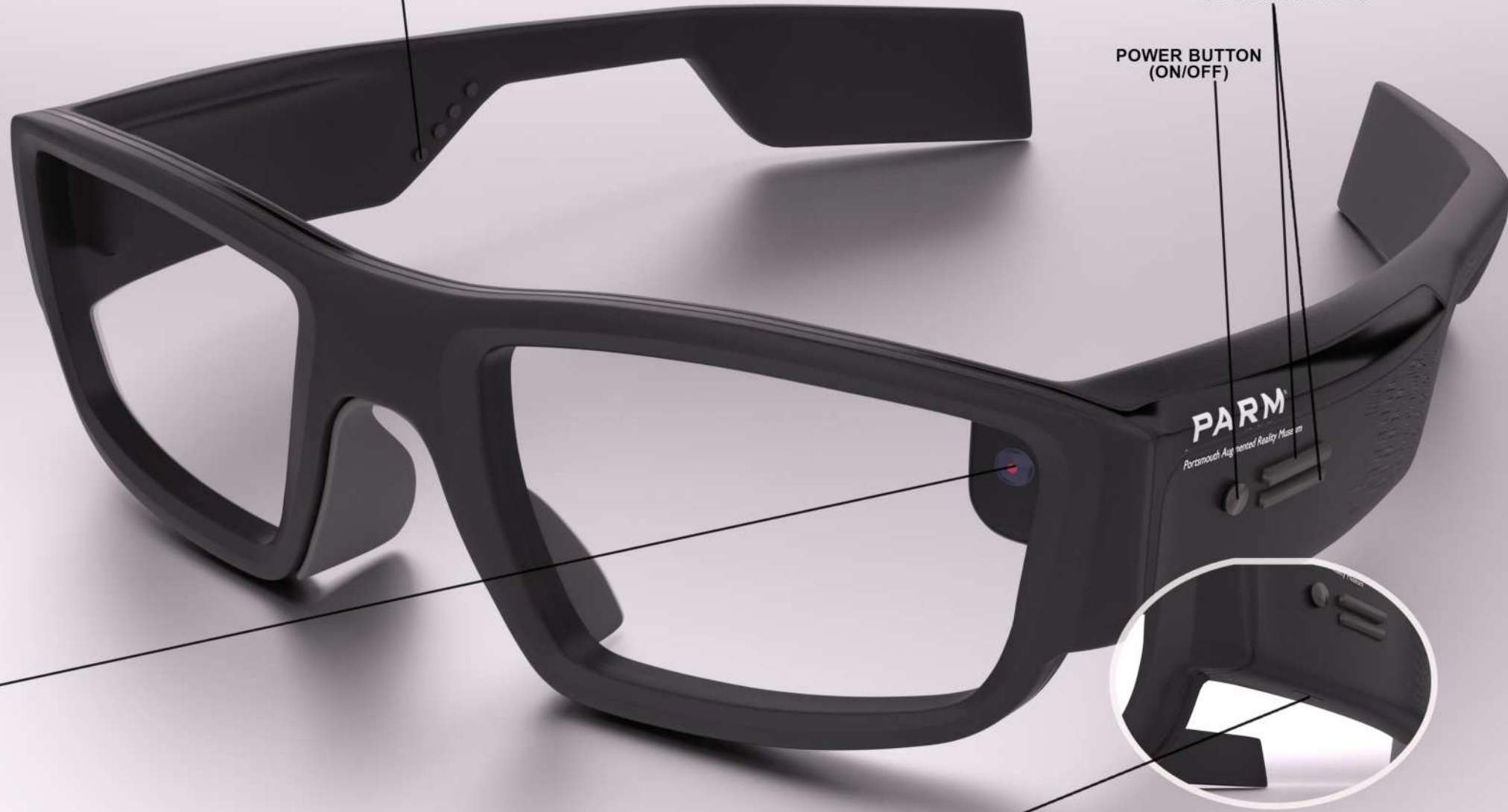
BONE CONDUCTION SPEAKER

UP / DOWN BUTTON

POWER BUTTON
(ON/OFF)

CAMERA LENS

TYPE C CHARGING PORT



Evaluation: What Worked + What We'd Improve

What we checked

Understandable • Engaging • Easy to repeat

What we learned

- Core flow felt straightforward (start → trigger → story)
- Story moment felt more engaging than reading
- Biggest improvements needed: feedback / clarity states

Refinements (next iteration)

- Clear “Scanning...” / “Exhibit found” feedback
- Minimal playback controls + duration
- Consistent Back/Home navigation



Reality Check + Scaling PARM Beyond Sherlock

Implications (museum operations)

- Content updates
- Device maintenance
- Simple visitor support

Challenges

- Reliability (hardware/network)
- Adoption for non-tech visitors
- Must remain optional

Limitations

- Small evaluation sample
- Prototype trigger (QR) vs intended trigger (proximity)

Opportunities / next steps

- In-situ testing in the gallery
- Second pilot in another gallery
- Accessibility expansion (captions, audio descriptions)
- “Story packs” per exhibit/collection

PARM is scalable museum storytelling — Sherlock proves the potential.