

ONTIK: Contemplative VR Consciousness Experiences

Technical Rider & Detailed Theoretical Description

1. CONCEPTUAL DESCRIPTION

Ontik is an immersive WebXR experience exploring consciousness states through custom GLSL shaders and spatial audio. Six contemplative journeys—from cosmic wonder to ego dissolution—invite viewers into meditative VR environments that bridge mystical phenomenology and digital art.

Grounded in consciousness research and clinical psychology, each experience translates documented mystical states into navigable virtual spaces, creating contemplative technology at the intersection of art, science, and spirituality.

The project draws from cross-cultural mystical literature, psychedelic phenomenology, and contemplative traditions to render states that exist beyond ordinary language—the territory where self-boundaries dissolve into something vast, ancient, and numinous.

Theoretical Framework

The work is informed by:

- **Mystical Experience Questionnaire (MEQ30)** research on core dimensions of mystical states
- **Phenomenology of religion** — Otto's concept of the *numinous*, Eliade's *hierophany*
- **Transpersonal psychology** — stages of ego dissolution, oceanic boundlessness, dread of ego loss
- **Contemplative neuroscience** — altered states of consciousness, default mode network dissolution

The Six Experiences

- **The Cosmic Attractor** — Gravitational pulls toward an unknowable center; evokes the numinous encounter
- **Alpha and Omega** — Cyclical birth-death-rebirth patterns; explores cosmic temporality
- **Infinite Gateway** — Portal-like transitions between phenomenological spaces; threshold experience
- **The Ascension** — Vertical dissolution into luminous void; ego transcendence
- **Transcendent Domain** — Non-euclidean sacred geometry; encounters with the wholly other
- **Alien Womb** — Oceanic dissolution into primordial space; pre-egoic immersion

2. TECHNICAL SPECIFICATIONS

Platform & Technology

- **Platform:** WebXR (browser-based VR, cross-platform)
- **Rendering:** React Three Fiber + Three.js
- **Shaders:** Custom GLSL fragment shaders (real-time generative visuals)
- **Framework:** React 18, TypeScript, Vite
- **XR Integration:** @react-three/xr (WebXR Device API)
- **State Management:** Zustand
- **Audio:** Web Audio API with spatial audio capabilities
- **Deployment:** Static web hosting (works offline once loaded)

Hardware Compatibility

- **VR Headsets:** Meta Quest 2/3/Pro, HTC Vive, Valve Index, PSVR2 (any WebXR-compatible device)

- **Desktop:** Any modern browser (Chrome, Firefox, Edge) with mouse/keyboard navigation
 - **Mobile:** Touch-based navigation on smartphones/tablets
 - **Recommended:** Meta Quest 3 for optimal standalone VR experience
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3. INSTALLATION REQUIREMENTS

Primary Setup: VR Station + Projection

Space Requirements

- **Minimum:** 4m × 4m floor area
- **Ideal:** 5m × 5m floor area
- **Ceiling height:** 2.5m minimum
- **Lighting:** Controllable/dimmable (dark environment preferred)
- **Location:** Quieter area of venue preferred (contemplative experience)

Equipment — Festival Provides (Request)

| Item | Specification | Quantity |
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| VR Headsets | Meta Quest 3 (or equivalent WebXR-compatible) | 2 |
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| Projector | 3000+ lumens, HDMI input | 1 |
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| Projection Surface | White wall or screen, minimum 3m × 2m | 1 |
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| Comfortable Seating | Swivel chairs or meditation cushions | 2 (VR) + 4 (queue) |
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| Power Outlets | Standard electrical outlets | 4 minimum |
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| WiFi | High-speed internet connection (for initial content loading) | Required |
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| Dark Curtains/Fabric | Light-blocking material for space enclosure | As needed |
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Equipment — Artist Provides

| Item | Specification |
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| VR Headset | 1x Meta Quest (backup unit) |
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| Laptop | For content management, casting, and troubleshooting |
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| Environmental Materials | Fabric draping, ambient LED lighting |
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| Installation Supervision | Artist available for setup+opening |
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Projection Setup

- Quest headset casts to laptop browser via Oculus casting
- Laptop output to projector via HDMI
- Shows real-time view of what one VR user is experiencing
- Creates external visual presence for queuing visitors

Backup Setup: Web Kiosk (if VR unavailable)

- Large monitor (27"+) or projection
- Mouse + keyboard
- Headphones
- Desktop browser experience (non-VR but fully functional)

4. INSTALLATION DESIGN

Concept: "Threshold Space"

The physical installation creates a transitional environment—a threshold between the festival's external stimulation and the contemplative interiority of the VR experience.

Environmental Elements:

- Dark fabric enclosure creating intimate, cave-like atmosphere
- Ambient low-frequency lighting (deep blue/purple LED strips)
- Projection screen visible from outside the enclosure, drawing visitors
- Minimal signage: "Experiência Contemplativa VR — 9 minutos"
- Queue seating with cushions, contemplative/ambient music

Visitor Flow:

- Visitors see projection from outside → curiosity
- Enter threshold space → ambient transition
- Seated, headset fitted (staff/artist assists)
- 9-minute immersive experience

- Headset removed → integration moment (quiet seating available)
 - Exit
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5. INTERACTION

Visitor Role

- **Active participant** in a contemplative VR journey
- Navigation via VR controllers (locomotion) or head-gaze (passive)
- Each experience is approximately 5–9 minutes
- No prior VR experience required

Interaction Model

- **VR Controllers:** Point-and-select for experience navigation in gallery
- **Head Tracking:** Shader environments respond to head movement and gaze direction

- **Hand Presence:** Glowing hand effects in VR for embodied presence
 - **Audio:** Spatial audio responds to position and orientation
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6. SETUP & MAINTENANCE

Timeline

| Phase | Duration |
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| Installation setup | 4–6 hours |
| Calibration & testing | 2 hours |
| Daily maintenance | 30 minutes |
| Dismantling | 2 hours |

Daily Operations

- Headset cleaning between users (alcohol wipes)
- Battery check and charging rotation (if using Quest standalone)
- Content auto-loads from web — no manual file management needed
- Staff training: 15 minutes (headset fitting, basic troubleshooting)

Staffing

- Artist available for opening week and key dates
 - 1 trained staff member during operating hours (headset fitting, visitor guidance)
 - Staff training provided by artist
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7. CREDITS

Concept, Direction & Development: Daniel Rezinovsky

Technology: WebXR, React Three Fiber, Three.js, Custom GLSL Shaders

Supported by:

- Rice University — PhD candidate, Religious Studies
 - Research in consciousness, mystical experience, and contemplative technology
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8. ARTIST AVAILABILITY

- Artist will be based in São Paulo, Brazil during the festival period (August–October 2026)
 - Available for installation setup, opening events, artist talks, and guided sessions
 - Can provide workshops on contemplative technology and VR phenomenology
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9. CONTACT

Daniel Rezinovsky

Email: danrezi@gmail.com

Website: <https://danielrezinovsky.com>

Project: <https://ontik.app>

Instagram: @monkadelic_

GitHub: <https://github.com/danrezi-gif/Ontik-vr-shader-experience>