

Kareem Hesham

Unity/XR Technical Lead | Hands-on Development

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Profile

Hands-on Unity/XR technical lead with 8+ years delivering production VR, mixed-reality, 360-degree media and multi-user platforms for healthcare, education and enterprise customers.

Owens technical direction from requirements and architecture through Unity/C# implementation, integration, customer validation and release. Translates specialist needs into practical solutions, mentors developers and leads delivery across Quest, PICO, desktop, mobile and web. Combines software engineering with an architectural and 3D-visualization background.

Work Experience

Senior Unity/XR Software Engineer & Project Lead

TAKEAWALK VR | EGTVED, DENMARK | 2022 - 2026

- Led end-to-end delivery of immersive products for healthcare, education, and enterprise customers, from discovery and architecture through acceptance testing and rollout.
- Designed Unity/C# systems for VR and mixed reality, 360-degree media, multi-user collaboration, AI avatars, analytics, and secure backend integration.
- Translated specialist and customer feedback into prioritized releases, technical plans, test criteria, and user-centered interaction flows.
- Managed cross-platform delivery for Meta Quest/Oculus, PICO, Windows, Android, iOS, and WebGL, including optimization, store approval, and fleet deployment.
- Mentored developers and owned architecture decisions, technical investigations, debugging, stakeholder demonstrations, and release management.

Senior Unity3D Developer

TAKEAWALK VR | CAIRO, EGYPT | 2018 - 2022

- Built core platform capabilities for interactive 360-degree media, linked scenes, hotspots, quizzes, synchronized avatars, voice chat, and real-time analytics.
- Implemented Photon PUN2 networking, REST/JSON integrations, AWS S3/EC2 services, token-based access, and customer-specific platform configurations.
- Created shaders, lighting, post-processing, realistic 3D environments, and interaction systems for standalone and desktop VR.

Senior Design Architect

EFFECT CONSULTANCY | CAIRO, EGYPT | 2013 - 2018

- Led architectural concepts, spatial design, client presentations, and photorealistic visualization using 3ds Max, V-Ray, Lumion, and Adobe tools.

Core Expertise

UNITY & REAL-TIME ENGINEERING

Unity3D, C#, VR/AR/MR, interactive 3D UX, shaders, lighting, post-FX, cross-platform optimization

XR DEVICES & DELIVERY

Meta Quest/Oculus, PICO, PC VR, Windows, Android, iOS, WebGL, mixed-reality passthrough

NETWORKING & PLATFORM ARCHITECTURE

Photon PUN2, synchronized avatars, voice chat, client-hosted systems, 360-degree media, interactive hotspots and quizzes

AI, AVATARS & BACKEND

ChatGPT, Whisper, Google AI, SALSA LipSync, Avaturn, REST/JSON APIs, analytics, AWS S3/EC2, Nginx, SSL/WSS, Podman

ENTERPRISE DEPLOYMENT

Microsoft Intune, AOSP enrollment, Meta Admin Center, MDM, kiosk workflows, Meta App Store, Google Play, release management

Career Snapshot

8+

years delivering
Unity/XR products

6+

targets: headset,
desktop, mobile &
web

3

sectors: healthcare,
education &
enterprise

E2E

requirements
through
release &
support

Education

Bachelor of Architecture Engineering

Ain Shams University, Cairo | 2008 - 2013

Languages

Danish: Elementary

English: Professional

Arabic: Native

Selected Projects

HEALTHCARE XR

ICU VR Medical Simulation - Copenhagen

Lead Unity/XR development

Built a Meta Quest ICU training environment with an interactive patient, ventilator, infusion pumps, alarms, and live vital-sign simulation. Developed a synchronized tablet interface so instructors could observe trainee actions in real time and assess performance.

Technologies: Unity, C#, Meta Quest/Oculus, real-time telemetry, tablet companion interface, medical simulation

EDUCATION & 360 MEDIA

Interactive 360-Degree Learning Platform

Unity platform and authoring workflow

Developed an editor and playback platform for educational 360-degree video. Users could add hotspots, branch between videos, create interactive quizzes, and receive end-of-session scores, with results and high scores connected to the backend.

Technologies: Unity, C#, 360-degree video, interactive hotspots, branching, quizzes, backend/API integration

FLAGSHIP PLATFORM

TakeAWalk VR - Immersive Platform

Lead Developer / Project Lead

Led development of a reusable platform combining 360-degree media libraries, 3D environments, Photon multi-user sessions, synchronized avatars and voice, AI NPCs, analytics, and cross-platform delivery. Integrated Danish-speaking conversational avatars with synchronized mouth animation.

Technologies: Unity, Photon PUN2, ChatGPT, Whisper, SALSA LipSync, Avaturn, AWS S3/EC2, REST/JSON

MULTI-USER EDUCATION | 2026

Multi-User Educational VR

Senior Unity/XR Software Engineer

Customized multi-user learning rooms, avatars, and interaction flows. Improved comfort by replacing repeated avatar movement with participant-summoning controls and single-avatar scenarios; enabled remote headset updates and Windows distribution while supporting plans for 40 additional headsets.

Technologies: Unity, multi-user VR, spatial UX, remote deployment, Windows, standalone headsets

Healthcare simulation, educational technology, AI avatars, multi-user XR, enterprise platforms, and managed headset fleets.

ACCESSIBILITY & MIXED REALITY | 2026

XR Vision Simulator

Senior Unity/XR Software Engineer

Translated feedback from vision specialists into a Meta Quest application simulating AMD, cataracts, glaucoma, diabetic retinopathy, and retinitis pigmentosa. Built medical visual filters, mixed-reality camera effects, and an AI-guided NPC, then iterated through late-stage validation.

Technologies: Unity, Meta Quest, mixed reality, Android APK, Windows, AI prompt design

HEALTHCARE TRAINING SUITE

WoundCare, GermTracker & Realtime AI

Senior Unity/XR Software Engineer

Built a PC and Quest healthcare-training suite covering interactive wound care, hand-contamination tracking, 20 bacteria-cleaning targets, sanitization and glove workflows. Added AWS S3 result logging, persistent AI conversations, and usage analytics.

Technologies: Unity, C#, Meta Quest/Oculus, AWS S3, AI conversations, analytics

ENTERPRISE DEVICE MANAGEMENT | 2026

VR Fleet and Kiosk Management

Senior Unity/XR Software Engineer

Designed a cross-platform kiosk and device-management workflow for Quest and PICO using Microsoft Intune, AOSP, and Meta Admin Center. Built a lightweight 500 KB management agent and administrator override, and supported healthcare deployments and a planned 15-headset educational rollout.

Technologies: Microsoft Intune, AOSP, Meta Admin Center, MDM, Android APK, Meta Quest, PICO

ENTERPRISE PLATFORM ARCHITECTURE

Self-Hosted Enterprise VR Platform

Senior Unity/XR Software Engineer

Contributed to an isolated enterprise-hosted platform using Photon multiplayer networking, Nginx routing, SSL/WSS, Podman deployment, database services, and infrastructure sizing for video processing.

Technologies: Unity, Photon, Nginx, SSL/WSS, Podman, database services, infrastructure sizing

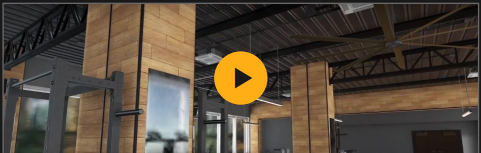
SELECTED WORK - CLICK TO WATCH



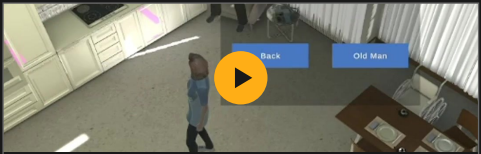
Unity / XR showreel

32 seconds

Unity / XR in production



3D environments & lighting



AI Scenario Builder

REFERENCES

References available on request.