Mohamed Refaat

Game Developer & XR Software Engineer

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Summary

Game developer and software engineer with 7+ years of experience building interactive experiences, including Unity-based games, VR training applications, and immersive educational platforms. Specialized in gameplay programming, scalable Unity system architecture, and multiplayer networking. Delivered XR products for education, training, and simulation used by real institutions across the Middle East.

Work Experience

2025 – Present **XR Software Engineer**, *EduVR*, On-site.
- Leading the development of a multiplayer VR education platform with 350+ interactive lessons across K-12 subjects.
- Architected a scalable system using Unity ScriptableObjects, addressables, and Photon Fusion networking.
- Integrated backend APIs for student tracking and performance analytics; maintained build pipelines across Meta Quest and PC VR.
- Delivered stable, optimized cross-platform builds; improved lesson loading time by 30% using async scene loading.

2023 – 2025 **Senior XR Developer**, *Ekson Almotahida Education*, On-site.
- Designed the system architecture and Unity framework for SCIVR, a large-scale educational VR platform with 1,600+ lessons.
- Built editor tooling and project templates to accelerate content production for a team of 10+ developers.
- Supported both WebGL and VR deployment; implemented multiplayer support for selected modules using Photon Fusion.
- Mentored junior developers and defined technical workflows across Unity, Git, and asset pipelines.

2022 – 2023 **XR Developer**, *IVY STEM International School*, Remote.
- Created educational XR experiences including VR simulations, HoloLens (MR) interactions, and AR learning tools.
- Built curriculum-aligned 3D games and simulations for STEM subjects used in classrooms.
- Delivered optimized, high-performance builds tailored to classroom devices and headset constraints.

Projects

EduVR Multiplayer Educational VR Application Currently leading development of a multiplayer VR learning platform with over 350 lessons. Responsible for system architecture, networking (Photon Fusion), API integration, and Unity build workflows.

SCIVR VR Education Platform (Ekson)	Led system design of a curriculum-based VR education system with 1,600+ lessons across 5 subjects. Created modular templates, custom editor tools, and scalable project architecture. Supported both multiplayer and WebGL modes.
Military VR Training Saudi Air Defense Faculty	Developed a VR training application for HTC Vive simulating the use of 7+ weapon types, grenade training, and live-fire drills. Built performance-tracked student dashboards connected to lesson progress and feedback.
Construction Safety VR Dubai Municipality	Delivered a VR training experience covering 50+ construction safety scenarios (fire, cranes, excavation, electricity). Application used for site worker safety certification in partnership with Dubai Municipality.
First Aid VR Saudi Red Crescent	Built a VR simulation to teach CPR, shock treatment, and trauma response for adults and infants. Designed to support medical training in real-world emergency response situations.

Skills

Game Development	Gameplay Programming, Physics-based Mechanics, Animation Systems, UI/UX Design, Input Handling, Level Scripting.
XR Development	Virtual Reality (HTC Vive, Meta Quest), Augmented Reality, Mixed Reality (HoloLens), WebXR/WebGL, Cross-platform XR Build Optimization.
Engines & Frameworks	Unity 3D (expert), Unreal Engine (basic), Photon Fusion (multiplayer), URP, Addressables, ScriptableObjects.
Multiplayer Systems	Client-Server Architecture, Network Syncing, RPCs, Player Session Flow, Networked Physics.
Systems & Architecture	Modular Project Design, Custom Editor Tooling, Asset Pipeline Optimization, Scalable Lesson Templates.
Software Engineering	Object-Oriented Programming (OOP), Design Patterns (Factory, Singleton, Observer), Algorithm Optimization, Performance Profiling.
Programming Languages	C#, C++, JavaScript (basic).
Development Tools	Visual Studio, JetBrains Rider, Git, PlasticSCM, Blender, Unity Profiler.
Workflow & Collaboration	Agile, Technical Leadership, Code Review Culture, Cross-functional Collaboration, Team Mentorship.

Education

2017 – 2018	**Virtual Reality Nanodegree**, *Udacity*, Online.
2015 – 2018	**Bachelor of Computers and Artificial Intelligence**, *Banha University*, Egypt.

Languages

English	Fluent
Arabic	Native