Andy DiLallo

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PROFESSIONAL SUMMARY

Unity Developer with experience building and maintaining real-time interactive applications across PC, mobile, WebGL, and XR platforms. Strong foundation in Unity and C#, performance optimization, asset pipelines, UI systems, and cross-platform build workflows. Experienced working independently on complex projects with strict technical and compliance requirements, producing clear documentation and reusable tooling. Background includes medical simulation, research-grade installations, and award-winning interactive projects.

TECHNICAL SKILLS

- **Game & Real-Time Development:** Unity (C#), UI Toolkit & UGUI, Addressables, Shader Graph, Animator Controllers, ScriptableObjects, DOTween
- **Performance Optimization:** Unity Profiler, Frame Debugger, asset pipeline optimization, occlusion culling, texture & memory management
- **Platforms:** PC, Mobile (iOS / Android), WebGL, XR (Quest, Vision Pro)
- **Tools and Workflow:** Git/GitHub, Jira, Figma, Unity Packages, custom editor tooling
- **Other:** Node.js, REST APIs, Azure services, technical documentation, CI-driven workflows

PROFESSIONAL EXPERIENCE

Community Fellow (Technical Developer)   *May 2024 - Present*
Media Economies Design Lab - Boulder, CO

- Contributing to ongoing research and production projects involving interactive systems, structured data workflows, and real-time interfaces.
- Collaborating with researchers and developers on tooling, documentation, and long-term maintainability of deployed interactive projects.

Unity Developer   *May 2023 - June 2025*
Cincinnati Children's Hospital Medical Center - Cincinnati, OH

- Core Unity developer on VR3S, a multi-platform surgical simulation suite, building real-time interactive systems in C# for clinical and training use.
- Implemented scalable UI systems, translating Figma designs and interaction flows into reusable Unity components.
- Integrated multilingual, voice-guided workflows using Azure Speech Translation within Unity-based interfaces.
- Optimized runtime performance and asset usage to ensure stable frame rates across constrained hardware targets.
- Co-authored a 30-page internal Unity knowledge base documenting architecture, build pipelines, and interaction patterns, reducing onboarding time by ~60%.

- Collaborated closely with clinicians, designers, QA, and external developers in a regulated production environment emphasizing stability and repeatability.

Unity Developer   *Nov 2023 - Apr 2025*

COSE Research Group / Karlsruhe Institute of Technology (KIT) - Karlsruhe, Germany

- Sole Unity developer for **ROAMING.COM**, an open-source, research-grade interactive environment built around modular data schemas and event-driven systems.
- Designed and implemented a flexible Unity architecture supporting dynamic content loading, hierarchical navigation, and responsive UI.
- Built custom tooling and reusable systems to support long-term maintainability and cross-installation deployment.
- Authored complete technical documentation and published source code and a white paper on Zenodo, emphasizing reproducibility and transparency.
- Project premiered at **ZKM | Center for Art and Media**, operating continuously in a public exhibition context.

Freelance Unity Developer (Selected Projects)   *Jan 2019 - Present*

Andy DiLallo LLC

- **UnearthU** (Steam / iOS / Android)**:** Developed Unity gameplay systems, UI, and optimized shaders for cross-platform deployment.
- **Terminal Sequence** (WebGL)**:** Built a performant Unity WebGL experience using async asset loading, object pooling, and optimized rendering pipelines.
- **Unplayable** (PC): Developed and optimized a large-scale Unity simulation with AI-driven systems, GPU instancing, and long-duration runtime stability.
- **Tikatmos** (PC / Mobile): Shipped Unity game featuring real-time voice-driven gameplay systems, custom audio pipelines, and performance-conscious UI interactions.

EDUCATION

MFA Art Practices   *August 2020 - May 2023*

University of Colorado Boulder - Boulder, CO

BA Music (magna cum laude)   *Sept 2016 - Aug 2019*

University of California Santa Cruz - Santa Cruz, CA

HONORS/AWARDS

- Unity for Humanity Grant - *VR3S* (2024)
- IndieCade Official Selection - *Tikatmos* (2022)
- A MAZE Explorer Award Nominee - *UnearthU* (2021)
- SIGGRAPH - *Resonant Waves* (2020)