

Tom Freehill

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OBJECTIVE

Engine programmer and team lead with 7+ years experience building and improving engines, apps, and globally distributed 3D simulations for PC, VR, and mobile. Looking to join a team that moves fast building systems with high fit and finish, and global reach.

SKILLS

Languages: C#, C++, C, HLSL, Cg, Python, JavaScript, Java, VBA, UE Material Editor, Shadergraph

Engines: Unity, Unreal, IdTech, Self-Built ([Engine of Evil](#))

Frameworks: WPF, WiX, REST APIs, SDL, Vulkan

Tools: Git, Perforce, Jenkins, Visual Studio, Jira, Confluence, Photoshop, Blender, Linear Algebra

Leadership: Cross-functional communication, Mentorship, Hiring, Delegation, Agile

Design: System Architecture, Pathfinding, AI FSMs, Collision and Physics, GUI, Text/Audio Localization, QA

EXPERIENCE

LEAD DEVELOPER | QUALITY EXECUTIVE PARTNERS

2021 - 2024

- **Virtuosi VR (HTC Vive, Oculus Rift, 6+ Shipped Titles 2021-2024)**
- Led, developed, documented, tested, delivered, implemented, and supported a suite of six (6) 3D interactive VR pharmaceutical job training simulations and multiple tools in five (5) languages across five (5) countries.
- Trained a team of five (5) junior, mid, and senior developers on the extensive Virtuosi suite of products, large code base, coding standards, quality validation, and learning management system (LMS).
- Cross-trained with subject matter experts (SMEs) to ensure all training materials complied with industry standards, while also teaching and learning to speak each other's language (pharma and VR).
- Built a WiX installer that took global client installs from four (4) hours to ten (10) minutes.
- Improved a MVVM WPF launcher to integrate SSO, protect software IP, automate detailed bug reports, reduce end-user friction, and make a custom VR suite available for trade shows with 2-day turnaround.
- Built localization data generation and import tools, as well as LMS REST API tooling using C#, Python, and VBA, which reduced translation iterations and debugging by months.
- Built and patented a multi-faceted VR liquid pipetting system (US20250191489A1)
 - <https://patents.google.com/patent/US20250191489A1/en?oq=US20250191489A1>

SENIOR DEVELOPER | FOUNDRY 45

2019 – 2021

- **Virtuosi VR and NDA Titles (HTC Vive, Oculus Rift, Android, iOS, 15+ Shipped Titles 2019-2021)**
- Led, developed, documented, localized, tested, delivered, and supported 15+ 3D interactive VR job training simulations used in three (3) languages across three (3) countries by top pharmaceutical, manufacturing, and shipping companies.
- Collaborated with a team of fourteen (14) senior developers, artists, QA testers, analysts, and SMEs to deliver all titles on or ahead of schedule with high quality.
- Built an XML visual scripting language to quickly iterate VR video, audio, and interactive text sequences for multiple unique client projects.
- Trained the company on Git pull request best practices to improve clarity, quality, and reduce time-to-merge.
- Maintained Jenkins build profiles.

INTERACTIVE DEVELOPER | NINJA MULTIMEDIA

2018 - 2019

- **Multiple NDA VR and AR Apps (Android, iOS, 4 Shipped Titles 2018)**
- Built multiple GPS and Bluetooth-tracked competitive AR apps from the ground up, wherein thousands of users vied for limited items for use in cash transactions.
- Designed and built local and remote SQL database APIs to expand audiences, and maintain both flexibility and stability in live production environments.
- Designed and built a runtime Vuforia AR marker calibration system for diegetic AR marker placement by client at-will on-site for rapid setup and minimal tech support.
- Collaborated with multiple clients, and in-house art, to build polished product UIs with smooth UXs.
- Programmed dynamic particle systems and layered shader effects.
- Ported client-provided Unreal Engine 3 assets (models, character animations, particles, UI, audio) to Unity.
- Designed and built offline prize encryption and distribution which when live supported 10,000+ concurrent users without issue.

R&D PRODUCTION TECHNICIAN | SOLIDIA TECHNOLOGIES INC.

2012 – 2014

- Planned and executed daily experiments to improve a novel carbon-capturing cement.
- Built VBA data export and graphing macros for sensor systems, improving analysis time by hours each day.
- Improved yield strength, durability, and curing time of products (cubes, cylinders, pavers).
- Documented and presented lab results at weekly team meetings.

EDUCATION

B.S. in MECHANICAL ENGINEERING | NEW JERSEY INSTITUTE OF TECHNOLOGY

2016

Cum Laude | Favorite Classes Kinematics, Spaceflight, Aerodynamics, Robotics & PLCs