

Tom Freehill

Senior Developer

Atlanta, GA, 30316 | (732) 789-5332 | tom.freehill26@gmail.com
www.tomfreehill.com | www.linkedin.com/in/thomas-freehill | <https://github.com/tmf7>

Game engine programmer and team lead with over 7 years experience building and improving game engines, apps, and globally distributed 3D simulations for PC, VR, and mobile.

SKILLS

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

Engines: Unity 6, Unreal 5, IdTech 2, Self-Built ([Engine of Evil](#))

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

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

Leadership: Training and Mentorship, Hiring, Delegation, Cross-functional communication, Agile project management

Specializations: Game engine Architecture, AI FSMs, Pathfinding, Collision, Physics, GUI, Localization, QA

EXPERIENCE

LEAD DEVELOPER | QUALITY EXECUTIVE PARTNERS

MAR 2021 - DEC 2024

- Shipped 4 new Virtuosi VR pharmaceutical training simulations (Vive/Oculus, Unity C#, HLSL), 2 VR Suite Launcher Hubs (1 client, 1 sales, WPF MVVM .NET), 1 VR Suite Installer (WiX), and 5 new online courses (LMS, REST API, Python, Excel VBA) to 10 large pharmaceutical manufacturing clients across 4 countries and languages, both on and ahead of schedule, saving clients an average of 3 months of high-quality training budget.
- Led a team of 6 to success with daily Agile standups and JIRA task delegation, weekly 1-on-1s, regular code reviews and pair programming, while mentoring on the SDLC, QA, coding, documentation, and Perforce best practices, remediating team member issues and timeline deviations as needed.
- Built direct relationships with many clients, and QxP customer service, while leading client installs, triage and fixes of client software and hardware issues in support of all 26 VR simulations and 56 LMS courses, maintaining over a 99% product uptime.
- Eliminated siloed knowledge and reduced iteration times by facilitating, documenting, and translating communications between my team, upper management, sales, pharmaceutical subject matter experts, and clients, while generating design specifications, and developer training content.
- Reduced client issue reports by 30% by coding single sign-on, bug reporting automation, and hardware locking into the client-facing VR Suite Launcher Hub.
- Accelerated development speed by coding core VR gameplay systems and Azure VM Jenkins automation. For example: in-app “user interaction intents” and “protocol enforcement” aggregators, deterministic VR gameplay recording and playback editor tools, one-click localization data import editor tool.
- Programmed numerous unique VR gameplay mechanics. For example: strict in-app tool assembly and use (guns, clamps, hoses), strict equipment operation (HMI, doors, containers, liquid mixing), diegetic UI.
- Designed, programmed, and patented a customizable VR liquid pipetting system, including generating patent data and claims for the patent lawyer.
 - <https://patents.google.com/patent/US20250191489A1/en?q=US-20250191489-A1>

SENIOR DEVELOPER | FOUNDRY 45 (Acquired by Axon)

JAN 2019 – MAR 2021

- Shipped 9 VR training simulations (Vive/Oculus, Unity C#, Cg/HLSL), to 5 clients (QxP, CDC, Alcon, UPS, US Bank) both on and ahead of schedule.
- Delivered quality builds quickly by spearheading company-wide Git pull request, code review, and Jira best practices, maintaining Jenkins pipelines for headless Unity builds and automated testing, maintaining assets of an in-house package server (Verdaccio, Node.js), and coding a one-click LMS data digester (Excel VBA, Python).
- Co-founded the company's strike team of 4 seniors to accelerate strong delivery across all existing and new projects. Example core system contributions: component-based VR object interaction sets, in-app protocol-enforcement sets, and Unity XR plugin upgrade to existing hardware wrappers.
- Partnered with a cross-functional team of developers, artists, subject matter experts, and QA to build 5 large VR training simulations. I was responsible for the design and coding of VR interactions, building UI, integrating art assets, and stably upgrading large core systems in some cases.
- Owned 4 assigned projects, including writing design specifications, programming game mechanics, integrating dynamic UI with localization data, and addressing QA test results. Example features I built: tool use in machine repairs, protocol-enforced machine disassembly/reassembly, equipping gear, physics-based safety-aware box stacking, choose-your-own-adventure VR video narrative (C#, XML graph), precision liquid transfer and mixing, spline-based vehicle locomotion, and diegetic scorecards and protocol UIs.

INTERACTIVE DEVELOPER | XR DOJO (Formerly Ninja Multimedia)

FEB 2018 - JAN 2019

- Shipped 5 XR mobile apps (Unity C#, Android and iOS) to 5 clients, both on and ahead of schedule.
- Rapidly delivered prototypes, iterations, and final builds to clients by enforcing well-scoped design documents, weekly client feedback sessions, wise mentorship of the company owner, efficient use of Git, and consistently committing the extra effort necessary to reach milestones.
- Owned programming of all projects from start-to-finish, while collaborating with an external artist.
- Hi-Rez Studios DreamHack AR (over 1k CCU):
 - Ported UE3 3D characters, animations, and 2D art to Unity, coded AR battles, integrated Firebase push notifications and bluetooth locators, coded prize encryption in local SQLite DB, built juicy UI and app screens.
- Dropt: Geolocated Coupons AR (over 1k CCU):
 - Programmed backend user accounts and content management/delivery (Gamesparks REST API, SQL and JavaScript), built UI and app screens including on-screen and AR-located UIs (uGUI, Vuforia) and user wallet.
- NXCold Industrial Refrigeration Demo AR:
 - Built a real-time Vuforia AR marker calibrator for rapid on-site client setup around a large model.
- Furniture Company Demo AR (markerless inventory placement, Vuforia, Cg/HLSL)
- Pharmaceutical Company Video Sequence Demo

EDUCATION

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

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