

Lee Hickey

Principal Engineer | Independent Contractor | Systems & Graphics

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Profile

- 30+ years delivering rendering engines, distributed systems, games and SaaS solutions.
- Delivered 40+ contract and in-house projects across gaming, SaaS, Web3 and marketing - on web, desktop, server, mobile and console.
- Led engineering teams of up to 30 people and founded/ran a successful games development studio for 12 years.

Skills

Primary: C, C++, Golang, Lua, OpenGL, Vulkan

Secondary: JavaScript, Python, Rust, Objective-C, C#, GLSL, Slang, Solidity

Tools & Platforms: AWS, Git, Docker, Linux, MacOS, Windows, Nix, NATS, WebRTC, SQL, NoSQL

Experience

Founder & Principal Engineer

11/2018 – Present

Hidden Bridge Limited

Sheffield (UK)

Independent software engineering consultancy. Sole engineer and director; end-to-end contract delivery from architecture through implementation.

Selected contract engagements

- **2026** - C++17 & Unreal Engine asset pipeline (cook) optimisations, profiled with Unreal Insights and Superluminal
- **2026** - Adversarial testing of frontier AI coding models for a model-training vendor - built realistic engineering tasks in Golang and Python that measurably defeat them, with automated pass/fail grading
- **2024** - Golang & DuckDB distributed analytics/feature-flag backend, using NATS JetStream
- **2023** - Golang & Svelte SaaS for brand UGC campaigns with an embedded Discord bot runtime - third engagement for PlayerState (2019, 2021, 2023)
- **2022** - Rust generative image pipeline, Golang & Vue platform and Solidity contracts for a digital art/collectibles venture
- **2021** - JavaScript & WebGL 3D renderer and in-browser authoring tool for procedural fashion
- **2021** - Golang, Rust & Vue platform for Ethereum-based collectible/customisable art project
- **2020** - C++17 & Vulkan 1.0 Mac/Windows apps with embedded WebRTC for remote screen-sharing
- **2020** - Golang & Redis backend for WebRTC client - session relay, user presence etc
- **2019** - Refactored and streamlined 10+ Objective-C and Swift iOS apps for mobile telemetry company

Skills: C, C++, Golang, Rust, JavaScript, Objective-C, Python, C#, Solidity, AWS (ECS, Fargate, DynamoDB, SES, S3), WebRTC, WebGL, OpenGL, Vulkan, Unity, Unreal, NATS, SQLite, DuckDB

Principal Engineer

06/2017 – 11/2018

Fig.co (formerly Ownage Limited)

San Francisco (US)

Community crowd-funding platform for computer games (like Kickstarter). Acquired Ownage Limited in Feb 2018

- Developed Ethereum-based platform for driving engagement
- Built Golang backend and React frontend
- Developed Golang CLI/SDK for per-project specialisation and React admin portal
- Wrote a C++11 SDK for Unity & Unreal
- Built iOS/Android wallet/authenticator using Flutter

Skills: Golang, C++, Dart, Flutter, AWS (Fargate, DynamoDB, S3), JavaScript, React

Lead Programmer | CTO | Owner

09/2005 – 06/2017

Games Faction Ltd

Sheffield (UK)

Independent games studio

- Created proprietary DirectX/C++03/Lua 3D game engine and associated tools for Windows/Steam
- Built proprietary OpenGL/C++11/Lua 2D/3D game engine and associated tools for iOS/Android
- Wrote proprietary, highly-scalable, async C++11/LuaJIT backend runtime - for online games

- Co-designed and developed 5 games, including award-winning **Project Aftermath** on Windows and the 50M+ downloaded iOS/Android hit **Storm the Train**
 - Engineered 20+ iOS/Android applications for clients including DIAGEO and adidas
 - Managed all day-to-day company running: recruitment, finance, legal, publishing, fund-raising etc
- Skills:** C++, Lua, Objective-C, Java, DirectX, OpenGL, Redis

Lead Programmer | Technical Director

03/1999 – 09/2005

Deep Red Games

Milton Keynes (UK)

Independent game developer, focussing on PC/Console simulation games

- Launched 3 titles and developed 5 prototypes
- Engineered proprietary C++98 game engine, tech and simulation systems for numerous games/prototypes, including **Tycoon City:New York** and **Monopoly Tycoon**
- Built and ran a core-tech team of 8 engineers, creating all technology used across the studio
- As Technical Director, coordinated/managed all engineers (approximately 30) across studio

Skills: C, C++, Lua, Direct3D

Programmer

07/1996 – 03/1999

Gremlin Interactive

Sheffield (UK)

Independent game developer and publisher

- Developed several PC and PlayStation 1 titles in C & C++98, including **Actua Soccer 2 & 3** and **Actua Tennis**

Skills: C, C++, x86, Direct3D

Personal Projects

Designer & Lead Developer

2025 – Present

Unannounced Title

Sheffield (UK)

Competitive procedural tycoon sim: Townscaper-like building on an irregular grid meets Monopoly Tycoon-style rival businesses.

- **Cinder** - C99 & Vulkan 1.3 renderer; minimal API for programmatic render pipelines
- **Pulse** - Golang & NATS JetStream backend; room abstraction over pub/sub for sessions and future multiplayer
- Procedural building system and economic simulation

Skills: C, Vulkan, Slang, Golang, NATS

Education

University of Sheffield

1996

BSc. Hons. | Computer Science