

Spencer Smoot

SOFTWARE ENGINEER | AGENTIC WORKFLOWS & CONTEXT ENGINEERING

Spencer@spencersmoot.com

EXPERIENCE

Cinematics Embedded QA

09/2024 – PRESENT

Cloud Imperium Games, makers of Star Citizen and Squadron 42, Frankfurt

- Built a feature that saves TrackView tracks to XML and loads them into other sequences. I started it as a Python tool, then moved it into the editor itself with menu and right-click access, and fixed cases like sub-sequence tracks. Designers used to rebuild five or six camera tracks for every shot. The team now shares a library of preset tracks and adjusts them per shot.
- Cinematic designers bring me the bugs nobody can explain. I trace them to the root cause across engine systems, such as facial animation culling, shadows in in-game video calls and interactable objects, and give engineering a report with the evidence. Over 50 releases so far.
- Added functions to the engine's TrackView Python API for creating usable, ship management, sequence and camera keys, and added GUID search to the editor's object selection command.
- Added the camera's f-stop to the debug text shown during renders.
- All of my engine changes went through code review with senior engineers.
- Built my own Jira dashboard in Python with Claude Code and Claude Cowork. It tracks my issues and launches local test scripts, and I keep adding to it.
- Test designers' cinematic updates in the client and editor, and write Jira bugs with repro steps and evidence so designers can stay on their own work.

Co-Founder

2019 – PRESENT

Lucid Thread Games, an independent game studio I started with a friend

- Started the studio in 2019 and incorporated it in the US in 2020. I run it next to my full-time job and cover game direction, systems design, gameplay programming and production.
- Prototyped several original games in Unity and Unreal, each to a playable build. None were released, and each one taught me more about keeping scope small. That is why Dreamt is built from small, scoped work orders.
- Currently building Dreamt, the studio's AI character and world-building app (see Projects).

AI Communications Strategist and Content Manager

04/2023 – 09/2023

Octavius Labs, the startup behind MailMentor, an AI assistant for writing sales emails

- Wrote client newsletters with ChatGPT and planned their topics.
- Made AI-generated artwork for the newsletters.
- Reported bugs and product feedback to the development team.
- Managed social media content. I found and worked with video editors, and edited, scheduled and posted short videos.

IT Work Study

01/2016 – 06/2019

Veteran Service Office, a state-funded service for veterans in Santa Cruz, California

- Built a computer lab out of donated computers.
- Taught veterans how to use computers and helped homeless veterans find services.
- Designed and built the Vets4Vets nonprofit website in Squarespace.

Quality Assurance Tester, Summer Intern

06/2018 – 09/2018

Sixense, a VR studio in Los Gatos, California

- Tested *Siege VR* during its beta.
- Prototyped gameplay mechanics in Unreal Engine Blueprints.
- Found bugs and wrote detailed repro steps, followed test cases to reproduce reported bugs, and checked fixes from the bug database.

Combat Medic Specialist (68W), E-4

2007 – 2013

U.S. Army. Active duty 2007 to 2011, including Iraq 2008 to 2009, then Army Reserve until 2013

- First responder for a platoon of 50 soldiers during combat operations in Iraq.
- Set up medical facilities and ran medical operations for a battalion of more than 500 soldiers during a 2010 field operation, with a team of five medics.
- Coordinated helicopter medical evacuations (Dustoff).
- Trained a medical platoon of 15 soldiers in medic refresher and Combat Lifesaver courses before deployment.
- Taught soldiers how to adapt standard trauma protocols to their mission.

PROJECTS

Dreamt

05/2026 – PRESENT

AI character and world-building app for Lucid Thread Games, built with TypeScript, Electron, React and SQLite

- Designed the agent workflow that builds it in Claude Code. Planning, coding, QA and documentation agents each work from a small work order in their own git worktree, and every change passes checks before it is merged. Over 100 work orders shipped so far.
- Built an AI playtester agent that uses the running app like a real person. It creates a world from scratch with Playwright, writes bug reports ranked by severity, and catches problems the unit tests miss.
- Send each task to the model that fits its difficulty. 56% of more than 13,000 model calls went to Sonnet or Haiku, which cost about 44% less than running them on Opus. When agents fail in a new way, I add a check for it.
- Built the pipeline that prepares context for AI character generation. A sliding relevance window picks what the model sees, so prompts stay the same size as a world grows. Users then choose, field by field, whether to keep their own text or use Claude's.
- Designed the data model: a graph in SQLite that tracks how relationships between characters change over a story's timeline.
- Over 1,200 Vitest tests, plus Playwright visual regression and end-to-end tests, and PostHog analytics.

Blue Rock Troopers

2020 – 2021, 2024

Lucid Thread Games, Unreal Engine

- A base-building game in the spirit of *Starship Troopers* and *They Are Billions*. You build a military mining base around a valuable resource and defend it against waves of hostile creatures.
- Designed squads that make their own decisions based on the situation around them.
- We paused it in 2021 because the squad AI was beyond our programming skills at the time, and came back to it in 2024.

A TOL Tale

06/2021 – 12/2022

Lucid Thread Games, Unreal Engine 5, then Unity

- A space factory game where you start very small and grow into control of a whole star system.
- It started as a 3D zero-gravity factory builder in Unreal 5. I cut it down to a 2D isometric game in Unity on a hex grid.
- Designed and built most of a component system that lets players make their own machines, similar to *Oxygen Not Included*.
- It was never released because the scope was too big. I have kept that lesson in every project since.

Amid the Autumn Leaves

A FEW MONTHS

Lucid Thread Games, Unity and C#

- My co-founder's idea: a calm 2D isometric survival and travel game about longing, the seasons and the lasting power of love.
- I programmed the movement and action systems and planned the inventory, shelter building, magic, health and weather systems in UML class diagrams.

Judge Simulator 2085

PLAYABLE ON ITCH.IO

Unity, WebGL

- You play a judge in the future, working through case files and handing out sentences from a hundred days to forever, and explaining each decision. The game asks whether a judge should follow the letter of the law or look at the person behind the case.

Ammo Drop

02/2021

Solo 15-day challenge in Unity, playable on itch.io

- A match-3 game where you send ammo to soldiers holding off zombies. I built it from a random game idea generator, in a genre I had never played.

Neural Network Experiment

SIDE PROJECT

Python

- Built a small neural network in Python to understand how they work. I kept it small so it would run on my computer.

Unsolicited QA, a Star Citizen YouTube Channel

01/2020 – 10/2021

- Made 34 videos reacting to Star Citizen videos and commenting on them as a game designer.

Game Jams, 2016 to 2023

- **Gigantor Game Jam**, 01/2016
- **Sheeple**, a puzzle game for the San Diego Game Jam (Groupthink), 08/2016
- **Crustacean Frustration**, Global Game Jam, 01/2017
- **Cute Tower Defence**, 01/2022
- **Twin-Stick Shooter**, 10/2023
- **RTS** for GitHub Game Off, 11/2023

University Projects, UC Santa Cruz

- **Thread**, my senior game project (2018 to 2019). A narrative game about a veteran's journey through PTSD that ends with a choice to follow the "thread" toward recovery. I pitched the idea and recruited a team of 10 classmates to make it.
- **Children of Ase**, a friend's senior game project that I joined as a new transfer student. A 2D top-down action and narrative game in C++. I was the designer working between the art and programming teams.
- **Game AI coursework** (2017). Implemented A* pathfinding, goal-oriented action planning (GOAP) and genetic algorithms in C# and Python.
- **Interactive Map**, a project for the CMPM 178 course.

SKILLS

Generative AI and LLMs	Claude Code, Cursor, Codex, ChatGPT, context engineering, agentic workflows, multi-agent orchestration, model routing, RAG, neural network basics
Game AI How NPCs think and move	A* pathfinding, goal-oriented action planning (GOAP), genetic algorithms, squad decision design
Programming Languages	TypeScript, Python, C#, C++, SQL, HTML and CSS
Engines and Tools	Unity, Unreal Engine (C++ and Blueprints), StarEngine, Jira and the Jira REST API, Git and GitHub, Linux
Data and Architecture	SQLite (better-sqlite3, WAL mode), EAV modeling, graph data models, state interpolation, UML, state machines
Quality	Root cause analysis, regression testing, test cases, bug reporting, Vitest, Playwright
Design	Game design, game systems design, systems thinking, Agile
IT and Hardware	PC building and repair, hardware troubleshooting, networking, system administration, remote desktop, Raspberry Pi, Arduino, Odroid, Google Workspace, Microsoft 365
Media	Short video editing, basic filmmaking, AI image generation
Leadership	Training soldiers (Army), game direction and production, pitching a project and recruiting a team of 10, managing freelance editors

EDUCATION

<u>Bachelor of Arts in Art and Design: Games and Playable Media</u> University of California, Santa Cruz	09/2016 – 06/2019
<u>Associate Degree in Mathematics and Engineering Prep</u> MiraCosta College, Oceanside, California (a two-year US college degree)	06/2011 – 06/2015

SPOKEN LANGUAGES

English (native), German (A2 to B1)