

The Web Game Ceiling

Is it time to leave the browser?



The Graphics Ceiling (Moving Up)

- **Past reality:** JavaScript stutters; open worlds are impossible.
- **New reality:** WebGL is here. Three.js downloads hit 5.4M/week. Unreal 5 demos now run in browsers.

The Distribution Ceiling (An Illusion)

- **Myth:** Browser games don't count.
- **Reality:** Wrap in Electron for Steam. Wrap in Capacitor for Mobile.

Conclusion: AI builds incredibly fast on the web, but for a proper desktop game, we need a native engine. Where should AI go next?

Unreal: High Fidelity, Zero Visibility

The engine with the highest ceiling is the most painful for AI.

Lock 1: Binary Blueprints

- Visual scripting (.uasset) is binary.
- Text-based AI cannot read, write, or see them (researchers needed custom parsers for 330k files).

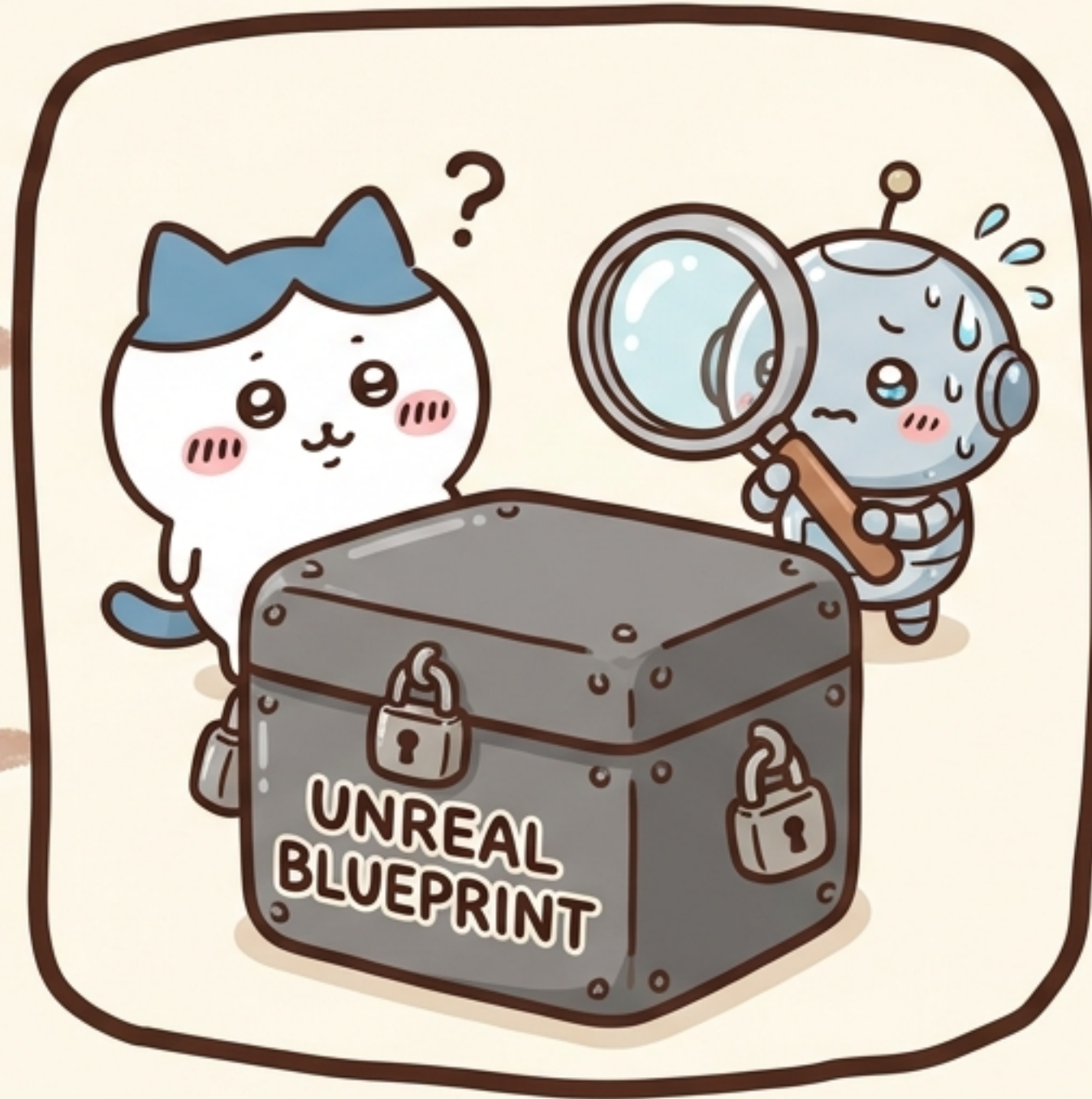
Lock 3: Slow Compile Loops

- Trial-and-error is AI's superpower.
- 50 to 70-minute cold compiles completely break the AI iteration loop.

Lock 2: Complex C++ Macros

- Custom UCLASS / UPROPERTY macros confuse AI.
- Results in heavy hallucinations, even with perfect syntax.

Verdict: If graphics are the product, AI is just a C++ sidekick. It cannot compose this game.



The Counter-Intuitive Truth

AI doesn't need the most data. It needs to see the whole picture.



Volume vs. Instability (Bevy/Rust)

- Status: Massive training data available.
- Issue: Breaking API changes every 3 months.
- Result: AI writes perfect grammar that refuses to compile.

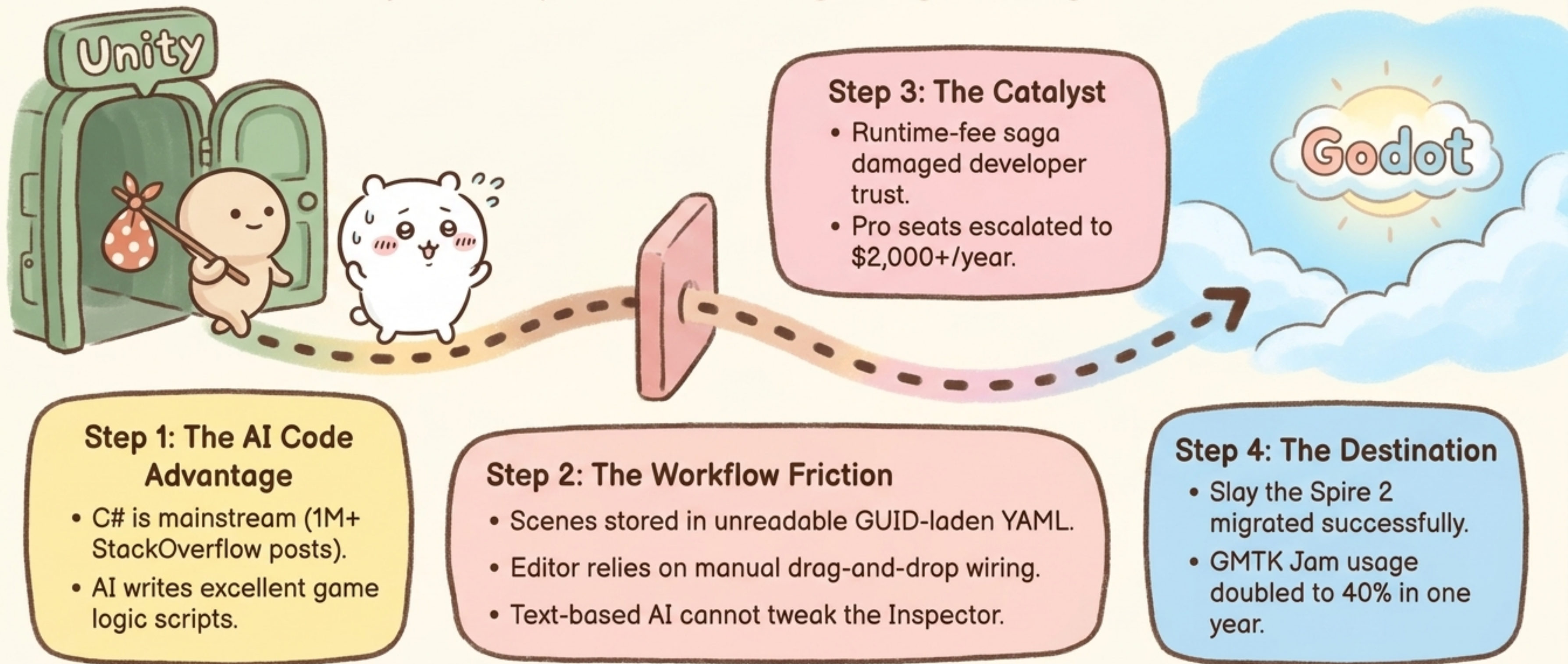
The Golden Rule:
Success = Freshness + Stability + Fitting the entire project in AI's context window.

Niche vs. Clarity (Pico-8)

- Status: Tiny token limit (8,192 max), severe constraints.
- Advantage: API is small enough to have zero ambiguity.
- Result: AI writes bug-free games in a single session.

Unity: Great Code, Stubborn Workflow

Why developers are making the great migration.



Godot: Giving AI Eyes

The best engine is the one AI can read entirely as text.

Read

Scenes (.tscn) and resources (.tres) are 100% plain text. No binary conversion needed.

Fix

AI reads the crash errors, writes the fix, and restarts the loop without human help.

Write

AI edits and diffs the actual game structure directly.

Run

Natively supports --headless mode. AI launches the game itself in a 50MB lightweight editor (vs. Unity's 2GB).



The gap isn't about how smart the AI model is. It's about whether the engine lets AI see what it's doing. Godot is an open book.