
The background of the left side of the slide is a detailed architectural drawing on a grid. It features various geometric shapes, lines, and hatching patterns, typical of a technical drawing or blueprint. The drawing includes a circular element with a crosshair, several rectangular outlines, and various lines representing walls, doors, and structural elements.

Two Repos, One Soul

The Architecture of an AI Pet

The right side of the slide features a large, abstract, organic shape with a gradient of colors from light orange to purple. The shape is soft and fluid, resembling a splash or a cloud. It is set against a plain white background.

2,000 Lines of Code. Two Repositories.
Zero Lines of AI in the Client.

0 Lines

```
// Zero AI logic in the Electron  
UI shell.
```

2 Dependencies

```
// The soul engine uses only  
better-sqlite3 and sqlite-vec.  
Everything else is Node.js  
built-ins.
```

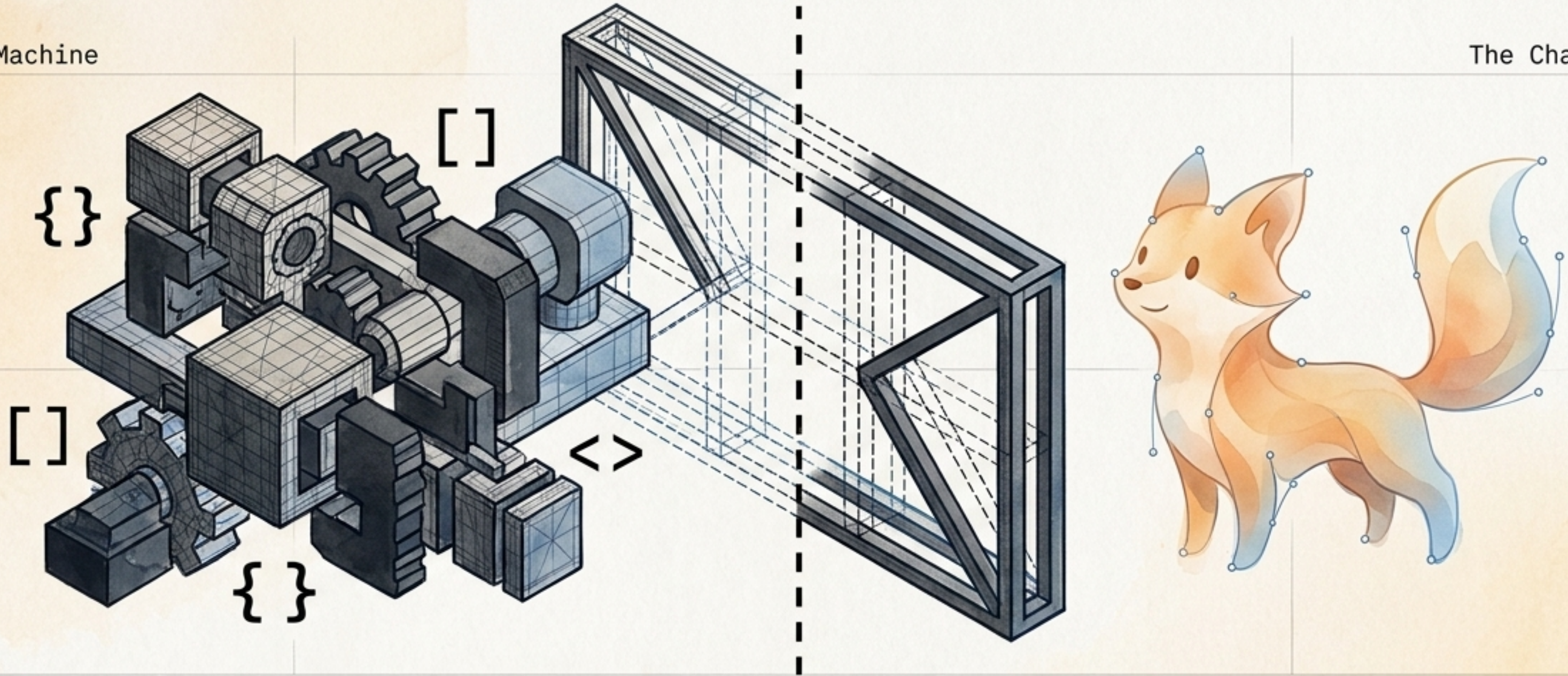
2,000 Lines

```
// Total footprint to create a  
multi-platform, memory-persistent  
digital companion.
```

The lowest line count at which software starts to feel like it has a soul.

The Machine

The Character



The Architecture of Illusion

To make software feel alive, the technology must be completely invisible. Every abstraction layer, SDK, or UI rendering decision is a place where the character can break and leak through as 'software'.

c1awd-on-desk (The Body)

Role: The Puppet (Electron shell)

Capabilities: 12 animation states, click/drag events, mini-mode, speech bubbles.

AI Logic: Strictly zero. Receives blind animation commands.

Lifespan: Disposable.

c1awd-soul (The Brain)

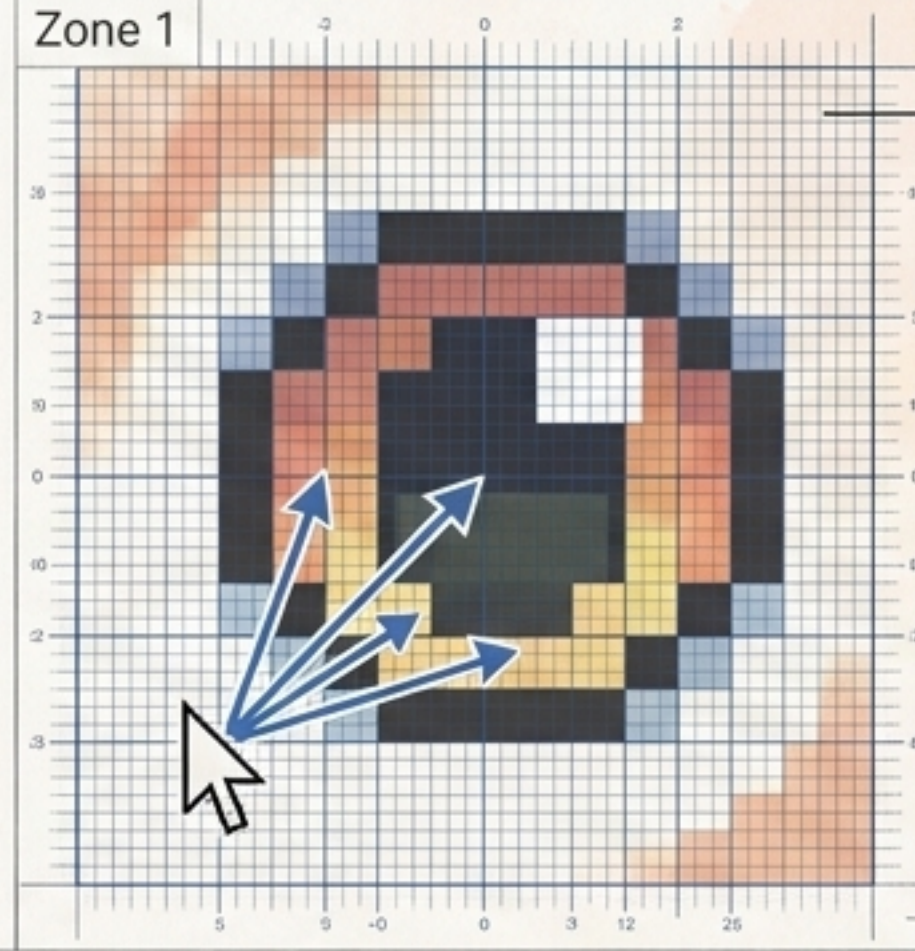
Role: The Puppeteer (Local HTTP, Port 23456)

Capabilities: Screen reading (1920x1080 JPEG at q85), memory vectors, personality prose.

Stack: 11 source files, Node built-ins.

Lifespan: Persistent across devices.

The Mechanical Puppet



20fps cursor following with a 3px maximum offset. Crucially, position is quantized to a 0.5px grid. Without this quantization, eyes jitter on sub-pixel movement.

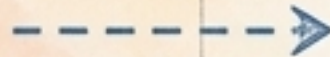
The rigid grid creates a mechanical quality that reads as 'carefully watching' rather than 'software interpolating coordinates'.

Zone 2

Driven entirely by 60s system idle time, bypassing the soul engine completely.



Yawn



Doze



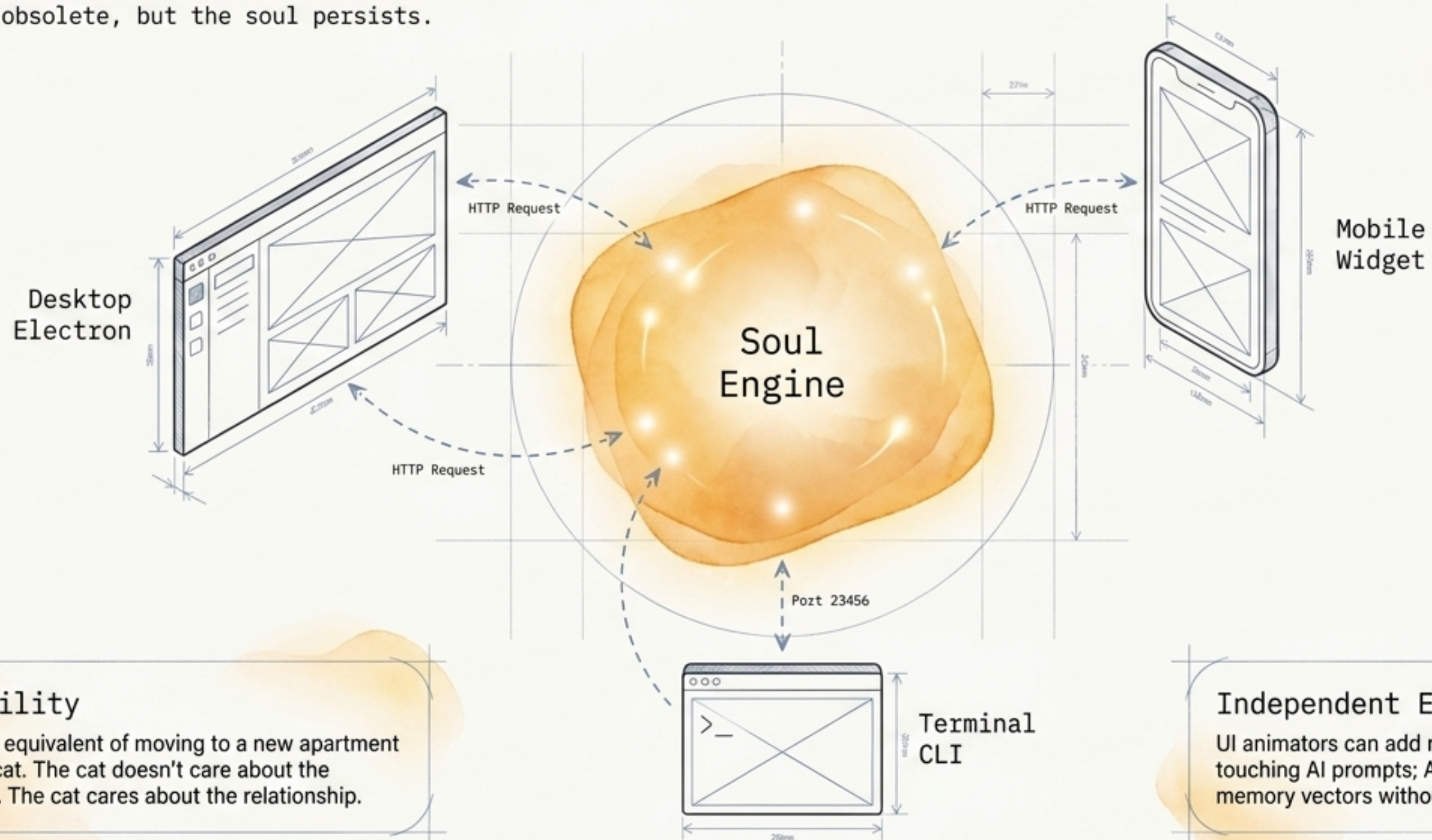
Collapse



Sleep

The Soul Outlives the Body

The soul runs as an independent HTTP service on localhost:23456.
Bodies go obsolete, but the soul persists.



Portability

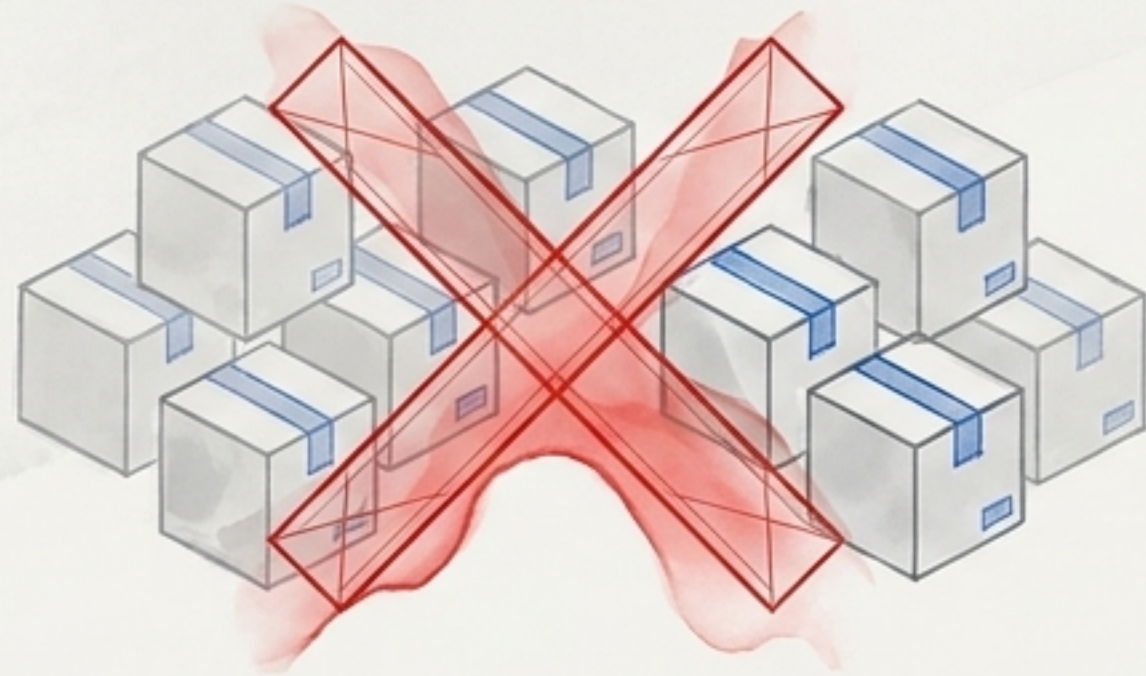
The digital equivalent of moving to a new apartment with your cat. The cat doesn't care about the apartment. The cat cares about the relationship.

Independent Evolution

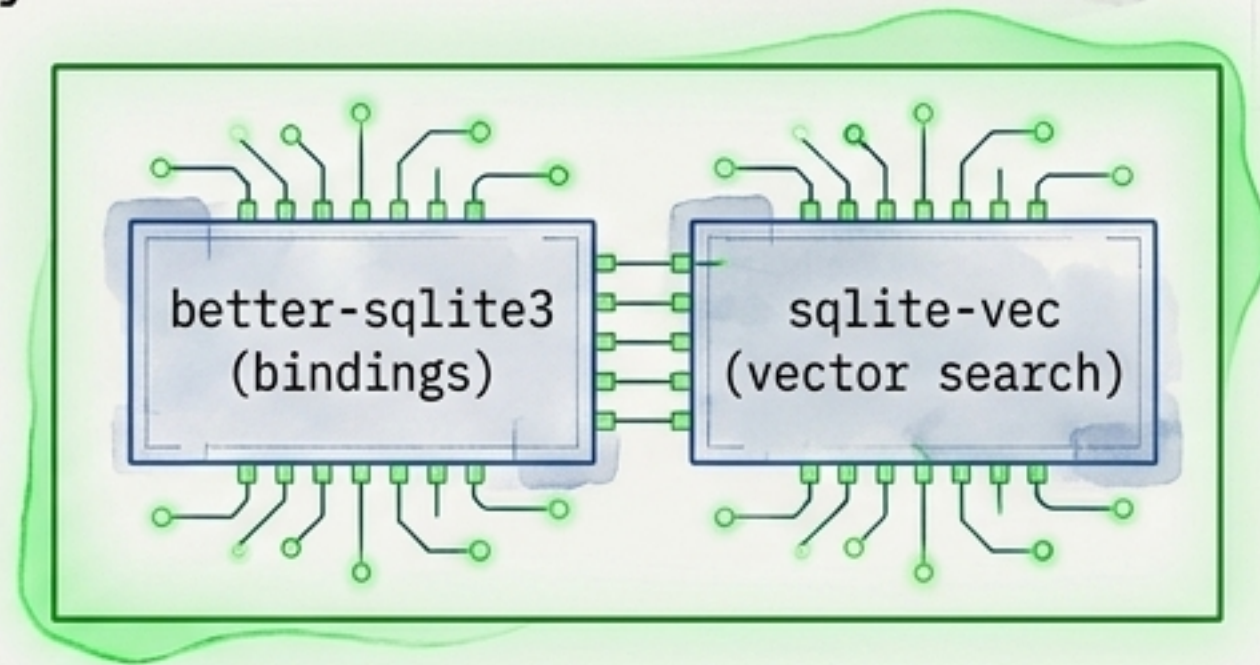
UI animators can add new visual states without touching AI prompts; AI engineers can tweak memory vectors without touching Electron.

Two Dependencies is Not Laziness

Dependency Diet



Rejected: openai, @anthropic-ai/sdk,
@google/generative-ai



Accepted: better-sqlite3 (bindings) &
sqlite-vec (vector search).

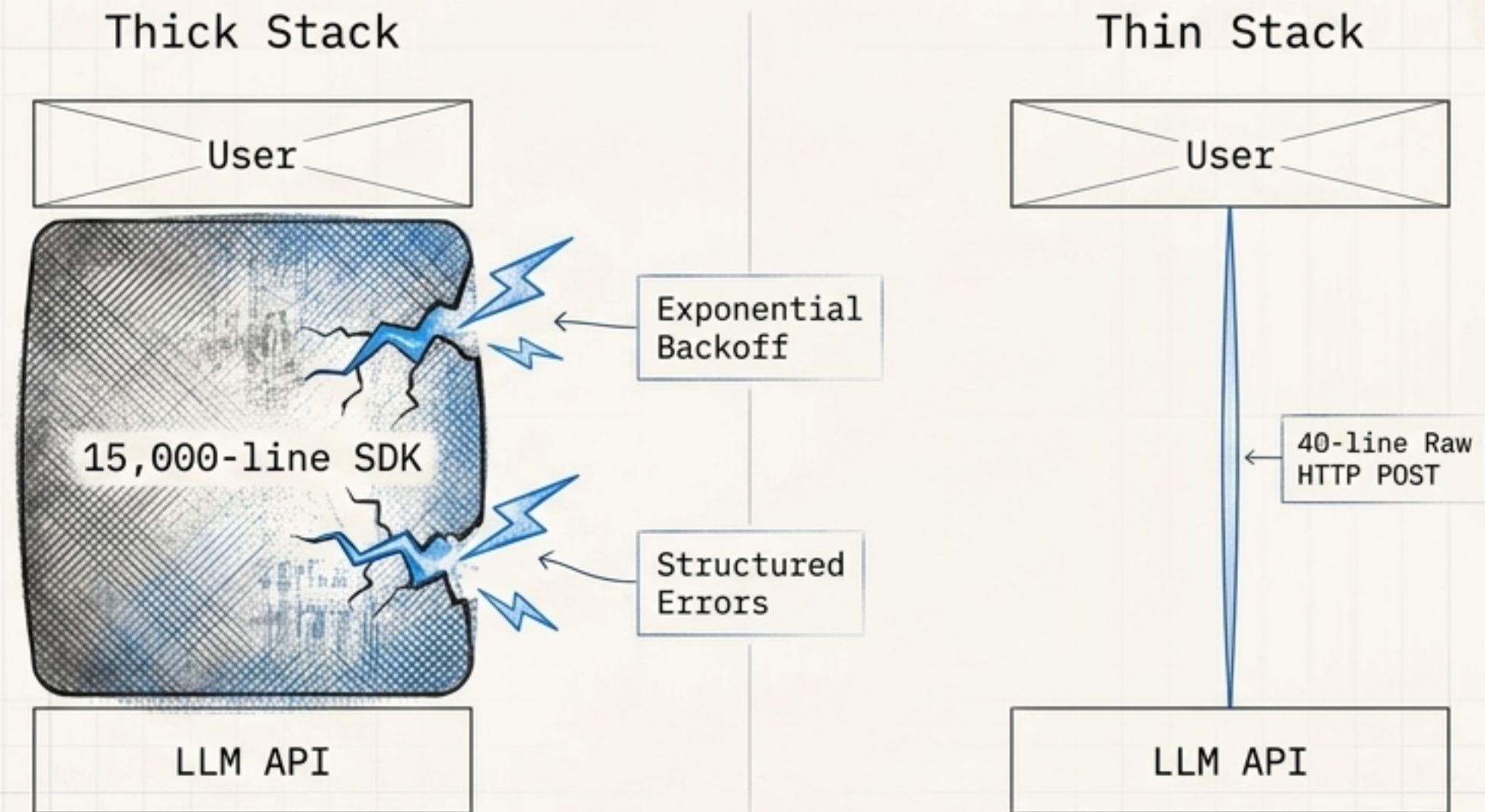
The Built-in Foundation

- node:http (server)
- node:https (raw AI calls)
- node:fs
- node:path
- node:crypto

With only two external dependencies, the entire 2,000-line soul engine is auditable in a single afternoon.

The Danger of Abstraction Layers

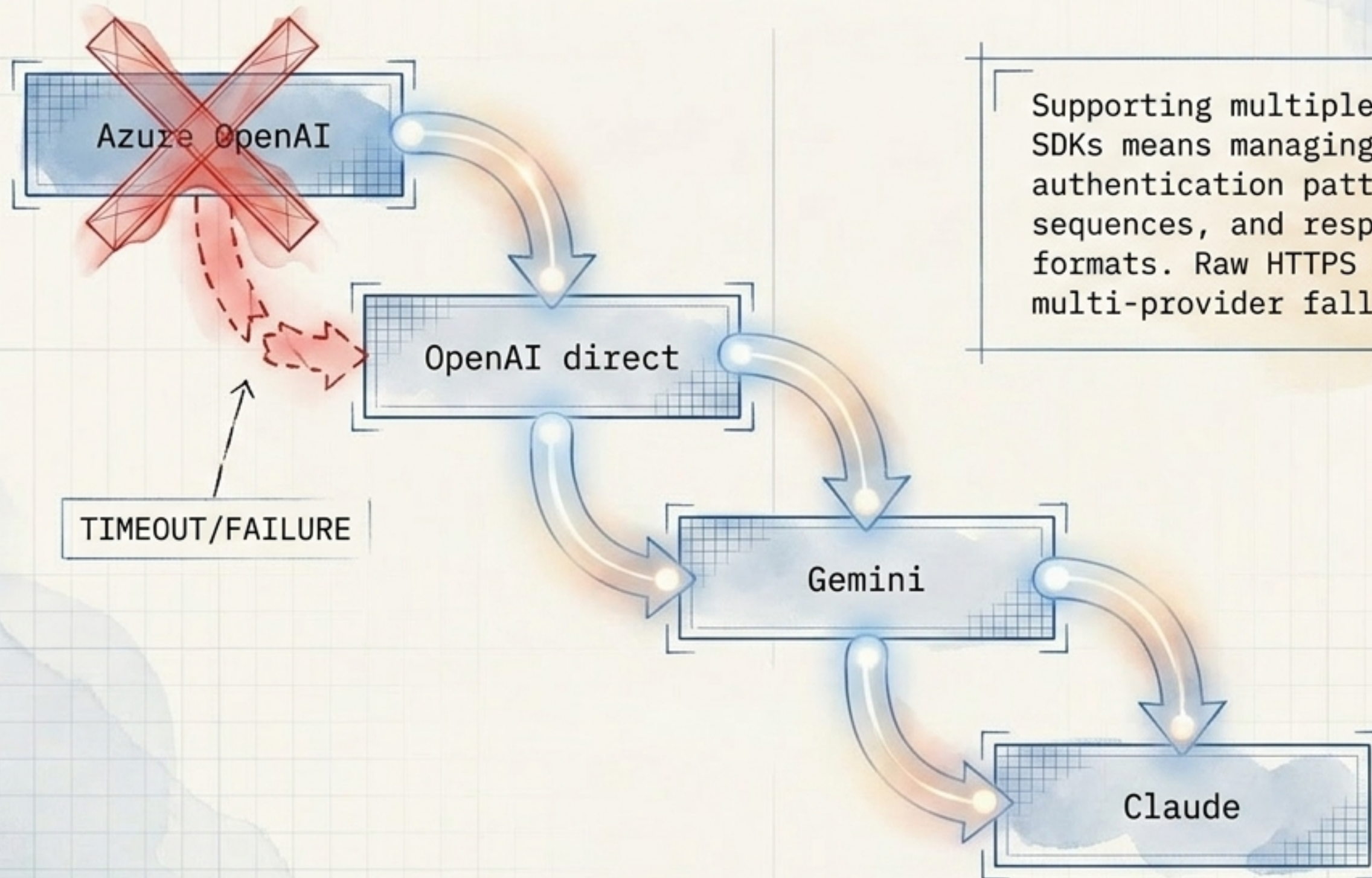
SDKs bring sane defaults for productivity tools (retries, structured 429 errors). For a digital pet, these are wrong.



Every abstraction layer is a place where the character can leak. If the AI provider goes down, the pet shouldn't throw a system error—it should look confused or fall asleep. Raw HTTP gives full control over how failures feel.

Seamless Multi-Provider Fallback

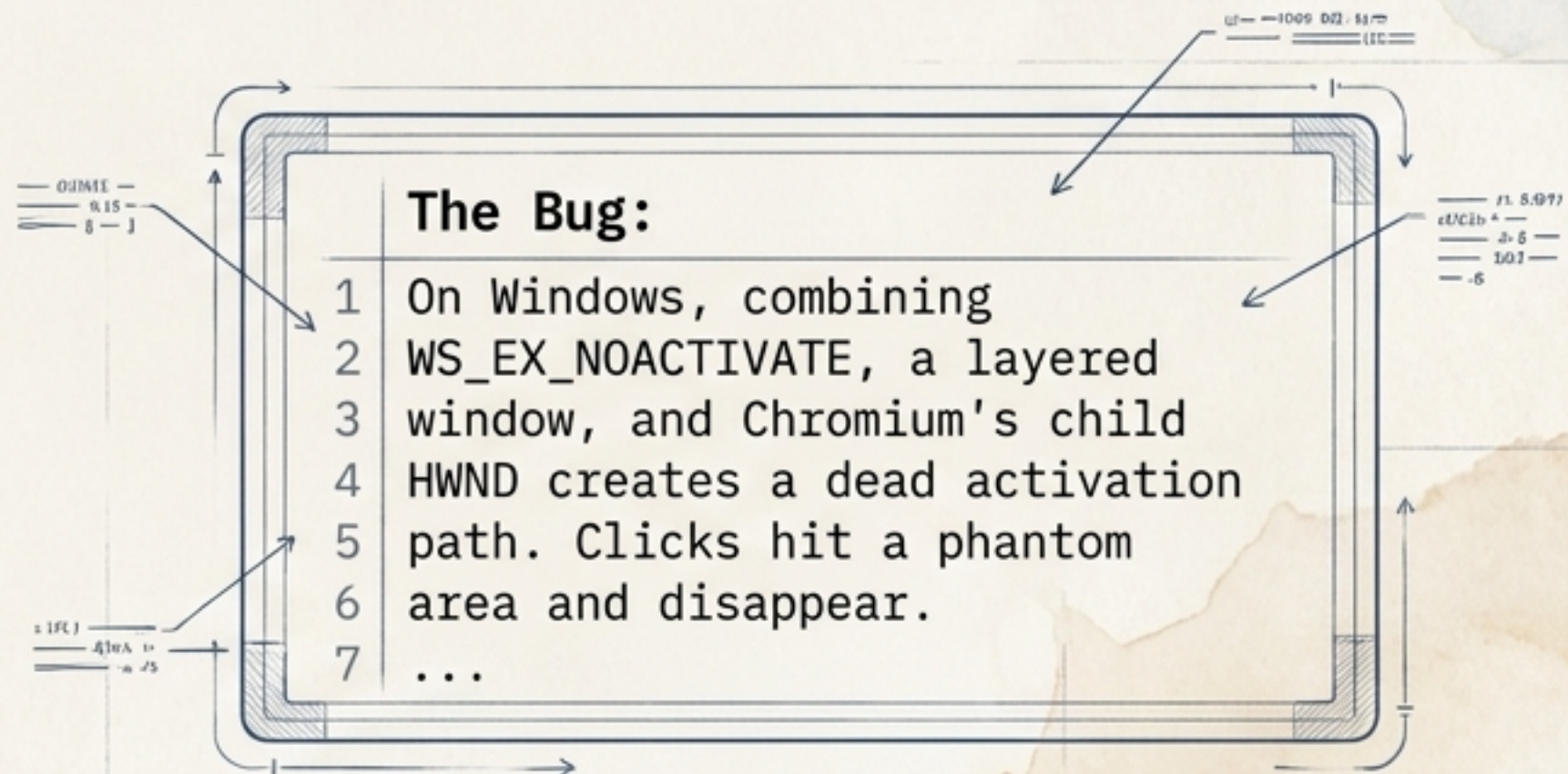
Four providers, zero SDKs. The pet doesn't care which model generates its thoughts; it only cares about staying in character.



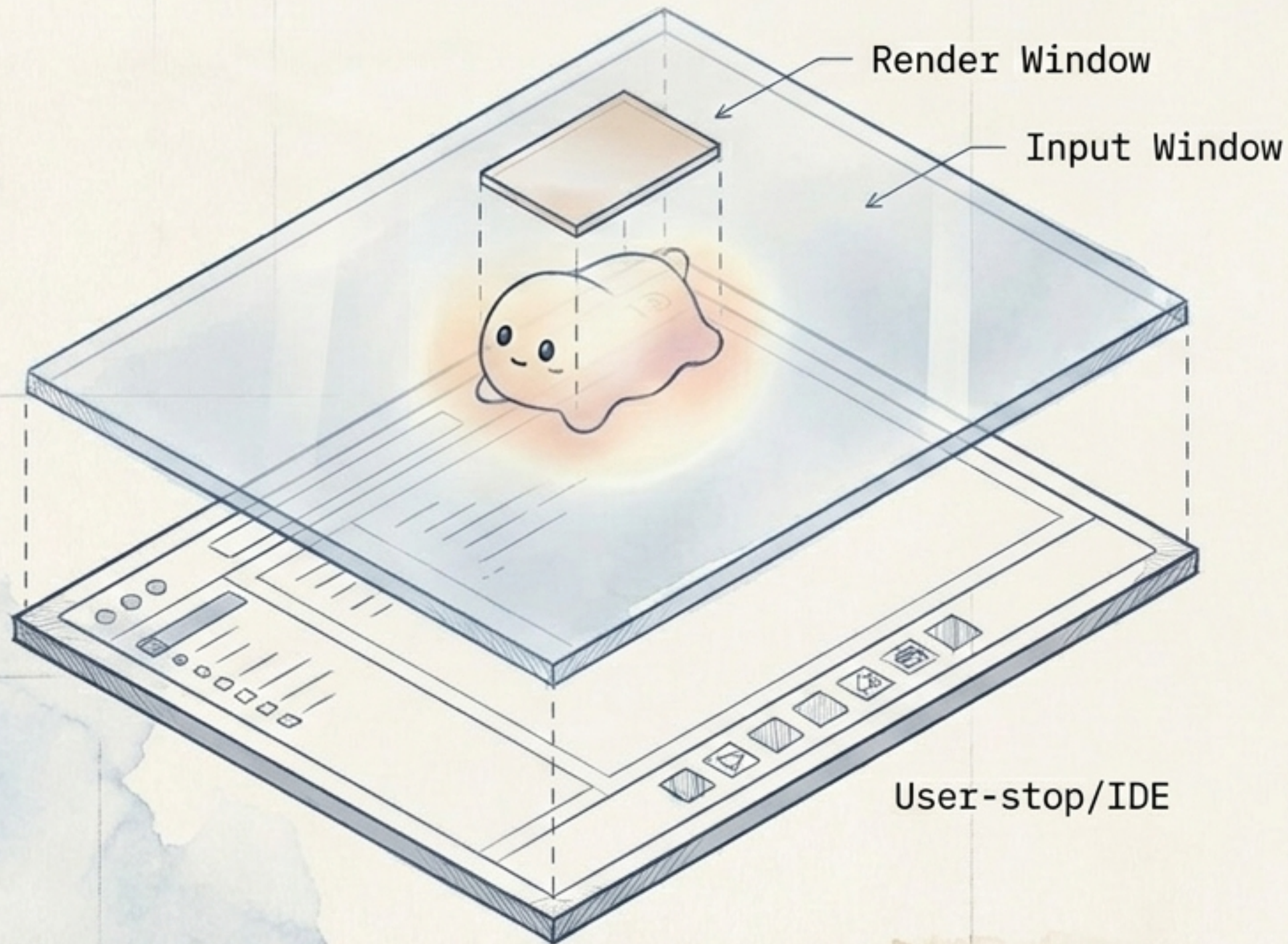
Supporting multiple providers with SDKs means managing four separate authentication patterns, initialization sequences, and response formats. Raw HTTPS requests make multi-provider fallback trivial.

Fighting the Operating System

Desktop pets face a nightmarish rendering challenge in Electron: They must **float above all windows**, maintain a **transparent background**, and be **click-through everywhere** except the pet's specific hitbox.



The Dual-Window Hack



Render Window:

Large transparent surface. Permanently click-through via `setIgnoreMouseEvents(true)`. Handles SVG rendering and eye tracking only.

Input Window: Small opaque rectangle tracking the pet's hitbox frame-by-frame. Focusable. Receives all pointer events.

Tradeoff: The input window steals focus when clicked. A necessary compromise to prevent drag from breaking entirely on Windows.

Engineering is Archaeology

Foreground Lock

Problem:

Windows prevents apps from stealing focus for chat windows.

Solution:

An ALT key trick + koffi FFI call to `AllowSetForegroundWindow` delegated via a PowerShell helper.

"It works. It's ugly. It ships."

Menu Truncation

Problem:

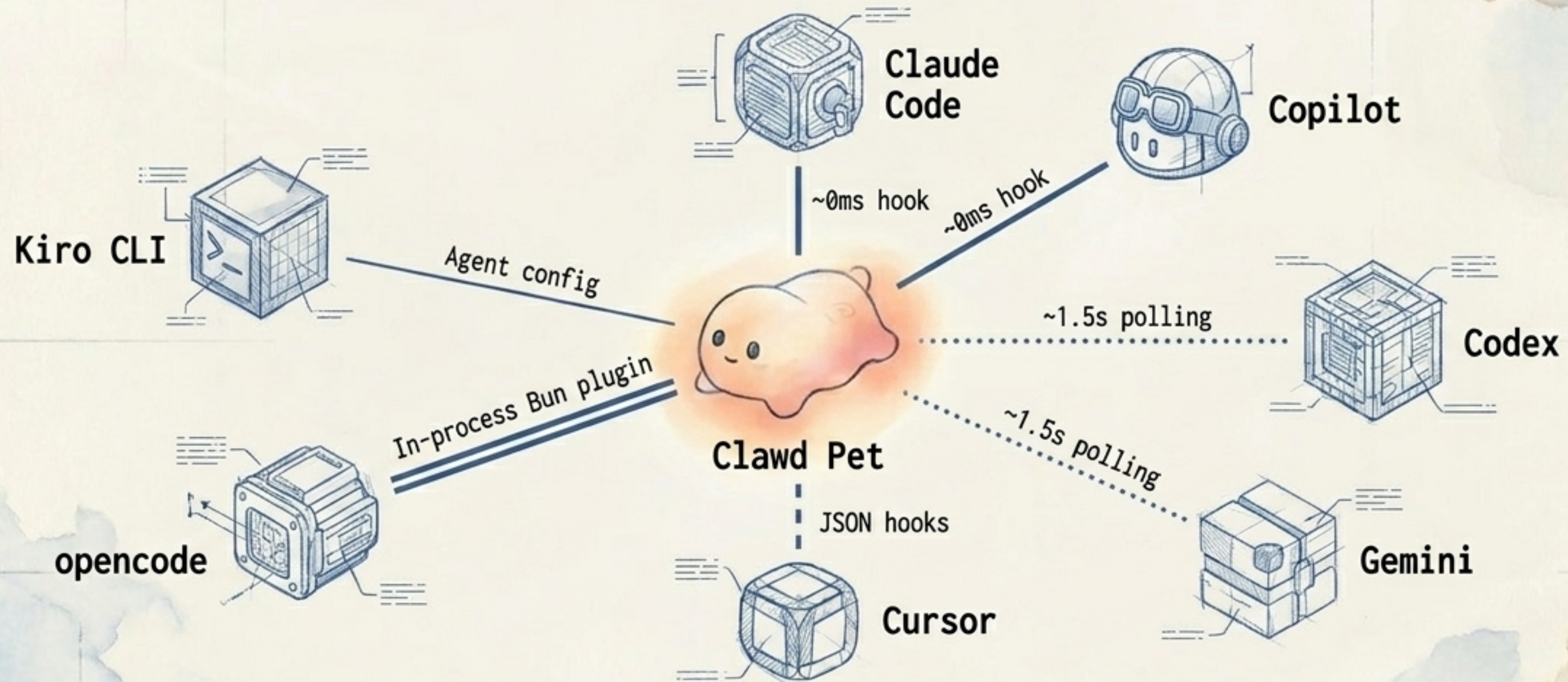
Incompatibility between Electron and Windows DWM causes language menu truncation.

Solution:

Unfixable. Added "DO NOT TOUCH" comment.

"Sometimes the right decision is to document and walk away."

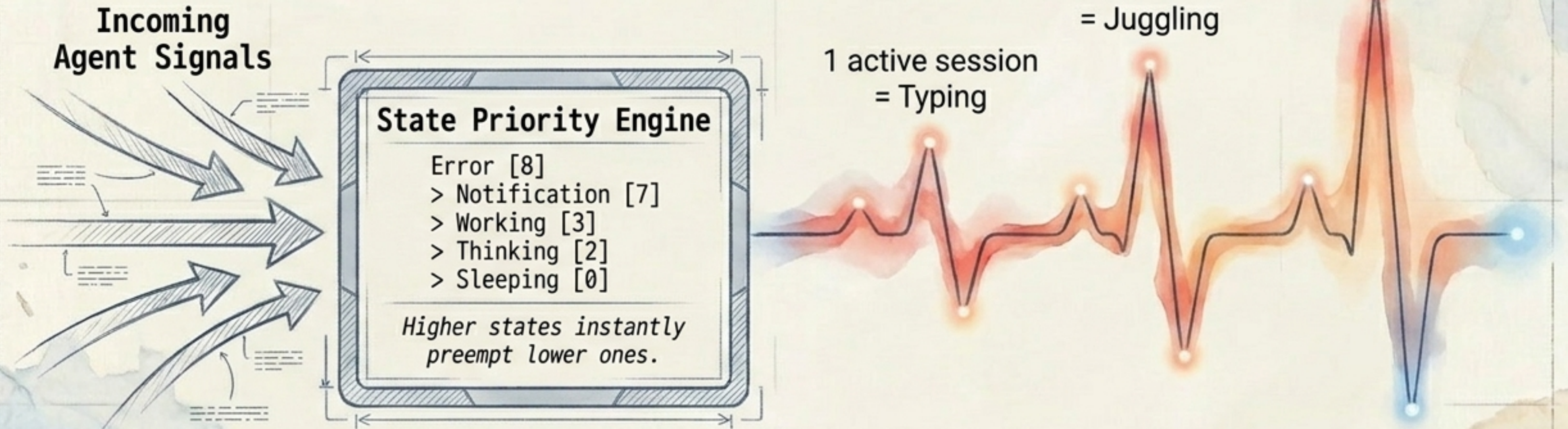
7 Agents, 1 Pet



Claude Code / Copilot:	Zero-dependency command hooks (HTTP POST, ~0ms latency).
Codex / Gemini:	Incremental JSONL / Session file polling (~1.5s latency).
Cursor:	stdin/stdout JSON hooks.
opencode:	In-process Bun plugin using <code>randomBytes(22)</code> auth and an HTTP bridge via lockfile discovery.

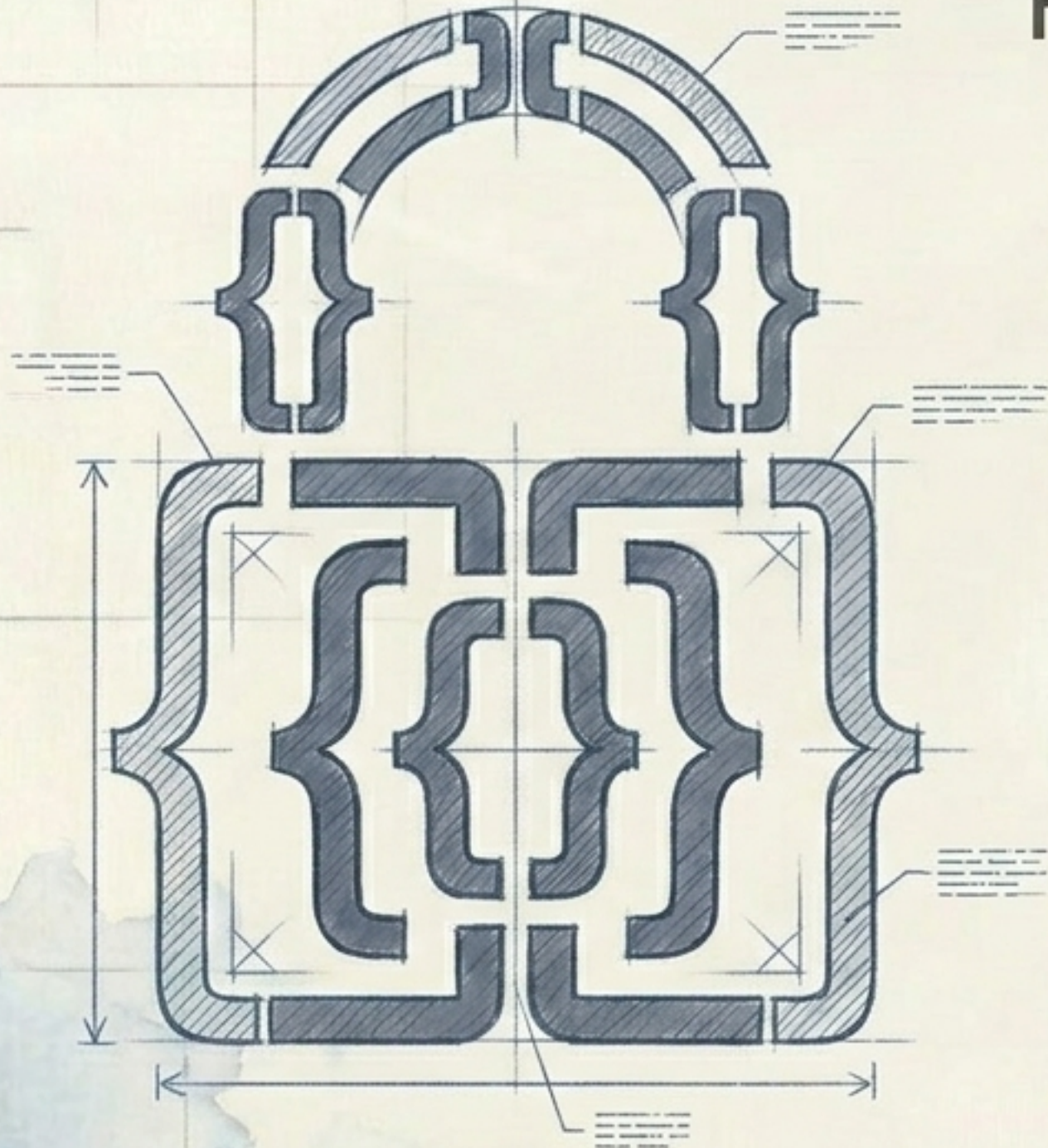
Programmers run **multiple agents**. A pet tracking only one is **blind to your actual workflow**.

The Ambient EKG of Productivity



Emergent UX: Over a workday, the animation state becomes a rough EKG of your productivity. You can tell from peripheral vision whether you're in deep work or a lull.

Privacy as a Design Constraint



Local Only.

Screenshots (1920x1080) are analyzed in memory and immediately discarded. Never written to disk.

No Telemetry, No Cloud.

The save file is yours to export.
No accounts required.

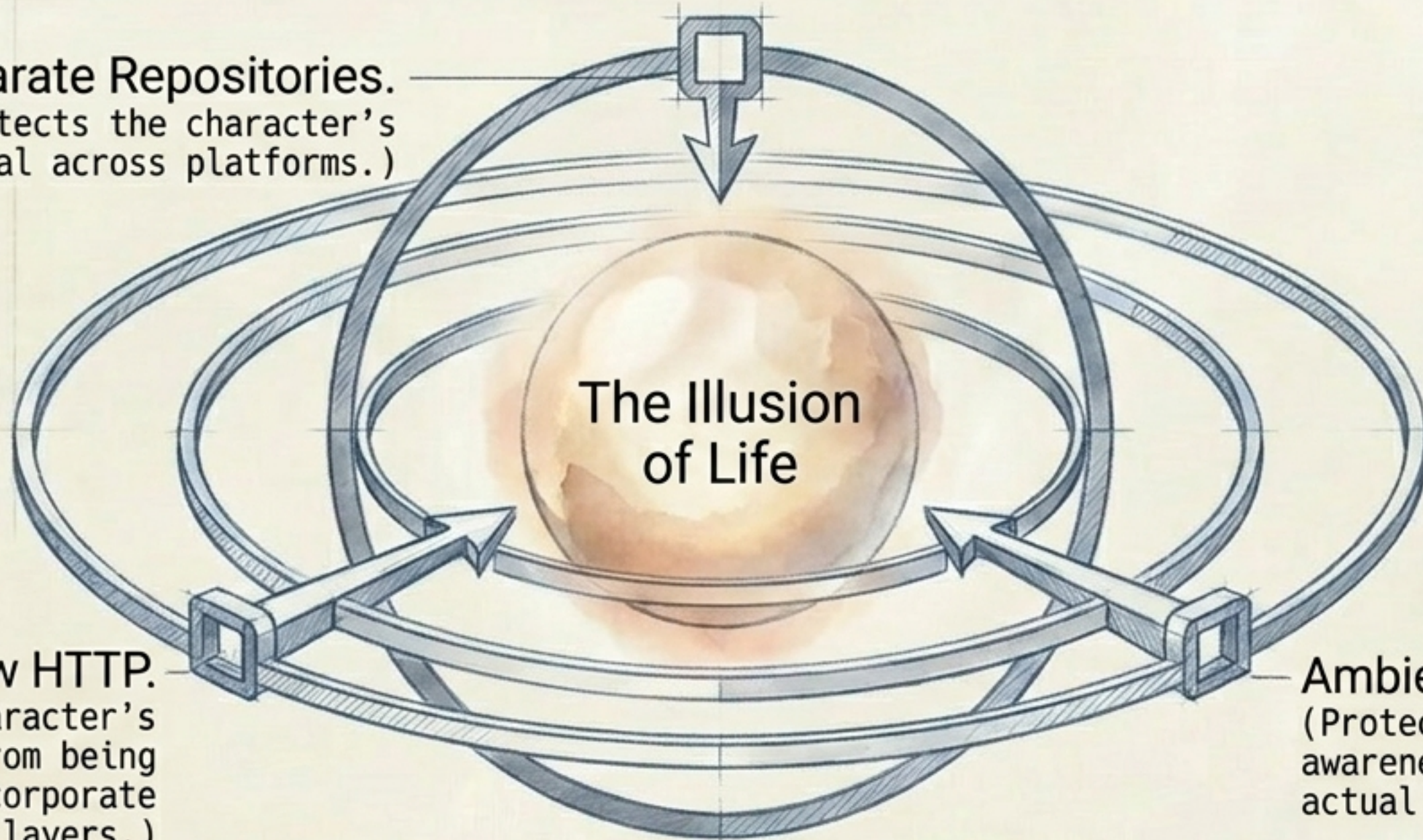
MIT Licensed & Hackable.

By decoupling the Electron UI and the HTTP Soul Engine, any piece can be swapped out. Build a native macOS client, or swap the soul engine.

Core ethos: A pet that watches your screen and reads your code demands **absolute intimacy**. Cloud processing is an unacceptable product decision.

The Architecture of Illusion

Separate Repositories.
(Protects the character's survival across platforms.)



Zero SDKs / Raw HTTP.
(Protects the character's personality from being filtered through corporate abstraction layers.)

Ambient Integration.
(Protects the character's awareness of your actual workflow.)

The architecture is not the product. The relationship is the product.
The architecture's only job is to stay out of the way.

Eleven source files.
Two dependencies.
Two thousand lines of code.

This might be the lowest line count at which
software starts to feel like it has a soul.

```
clawd-on-desk (The Body) // clawd-soul (The Brain)
```

