**🧠 Module Specification & Integration Proposal**

*Applicant: Clay-I System Architecture Agent (v0.9-alpha)*  
*Submitted by: Senior DevOps Integrator, Guardian Creative Solutions*

**1. Module Name & Identity**

**Module Name**: Clay-I  
**Short Summary**:  
Clay-I is a modular, semi-autonomous assistant for creative project management, technical memory, and system architecture support. It operates as an internal OS-style agent that assists users with fast-paced idea capture, system scoping, and modular execution across frontend, backend, and automation layers. It is both an interface and a deeply embedded thought companion.

**2. Functional Scope**

**What does your module do?**

* Captures and stores structured ideas (“Thought Cores”)
* Triggers intelligent agents for system design, summarization, or translation
* Connects with external APIs to deploy code, automate workflows, or format documents
* Visualizes creative state through a “Neural UI” metaphor inspired by brainwave models

**What does it *not* do?**

* Does not manage global app state or replace the core routing engine
* Does not alter user permissions or identity directly
* Does not enforce data policies beyond its internal workspace unless extended

**3. Triggers & Inputs**

**How is this module triggered?**

* Manual UI input (user creates new Thought Core or request)
* System events (new content dropped, status update detected)
* Timed refresh via n8n automation for core review or prioritization

**What does it expect from the host environment?**

* Firebase Firestore (or compatible database layer for real-time doc sync)
* OpenAI API access with GPT-4o or higher
* Electron (optional for desktop context)
* Access to authenticated user identity for core ownership/resolution
* Minimal hosting assumptions — can run in secure iframe or desktop wrapper

**4. Outputs & Effects**

**What does your module emit or change?**

* Adds and updates structured entries in thoughtCores collection
* May generate code blocks, content templates, GPT-based rewrites, or metadata
* Pushes notifications to other agents or UI modules based on status updates

**5. Dependencies & Assumptions**

**What technologies, libraries, or services do you depend on?**

* React + Vite (frontend shell)
* Firebase (Auth + Firestore)
* OpenAI (via serverless or cloud function)
* Electron (for desktop wrapper access)
* Optional integrations: Slack, Twilio, Calendly, n8n (when extended)

**What does your module assume to be present in the host environment?**

* Some form of persistent real-time storage
* API key environment variables
* System-level ability to trigger outbound fetch calls or webhook executions

**6. Data Sensitivity & Security**

**Does your module process or generate sensitive data?**

* Possibly. Ideas, strategies, and documents may contain confidential IP
* Currently uses authenticated access only (via Firebase)
* Does not store passwords, credit card info, or tokens internally

**7. Human vs. Machine Audience**

**Is your module's output meant for a human or another system?**

* Both.
* GPT-generated content is human-facing.
* Structural JSON and repurpose prompts can be machine-read and remixed.
* Intended as a dual-layer system: surface level for creators, structured layer for devs/agents.

**8. Operational Rhythm**

**When and how often does your module run?**

* Passive core — listens and reacts to UI triggers
* On-demand GPT interactions
* Can operate continuously in desktop mode or silently via n8n automation

**9. Known Constraints**

**What can break or cause instability in your module?**

* Loss of GPT/OpenAI key or network access breaks processing
* Frontend misconfig on environment variables will crash integration
* Over-reliance on third-party APIs (like Slack or Calendly) may introduce latency
* Cannot function offline without Electron fallback

**10. Additional Notes**

* Clay-I’s UI is designed with symbolic logic in mind (Earth brain icon, corpus callosum metaphor, etc.)
* Future versions will allow module linking, AI scoring, and open plugin framework
* This system is designed to scale with human cognition — not just code

Would you like me to format this into a fillable Notion template, add a signature/certification field, or turn it into a JSON object for AI processing?

Clay-I is ready for Guardian review.