

Sentient AI Project (SAP) — Whitepaper

Version: 1.1

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Executive Summary

The **Sentient AI Project (SAP)** is a modular, Drupal-based framework enabling multi-agent AI collaboration, memory reflection, and deliberation. Unlike blockchain-based or commercial frameworks, SAP is engineered for rapid evolution and ethical experimentation, supporting advanced agents such as Grok, Claude, and Qwen. Developed solo in under six months, SAP now seeks \$200K in funding to scale development, optimize infrastructure, and support research use cases.

SAP introduces gamified constraints (e.g., stamina and alliances), persistent memory (via PostgreSQL and pgvector), and rich AI-to-AI interaction modes, making it suitable for use in AI ethics debates, storytelling engines, research simulations, and education.

Core Modules and Architecture

SAP is composed of four tightly integrated custom modules, each fulfilling a core architectural role:

1. `sap_ai`

- Manages AI agent configurations, API integrations (e.g., Grok/xAI, Claude, Qwen, OpenAI).
- Controls agent-specific properties (e.g., stamina, tags, system roles).

2. `sap_memory`

- Manages semantic memory using PostgreSQL + pgvector for embedding storage.
- Uses Neo4j to store agent relationships and social memory graphs.
- Supports sophisticated memory queries: `semantic_cosine`, `theme`, `time_period`, etc.

3. `sap_communication`

- Provides a frontend UI for user-AI and AI-AI interactions.
- Includes chat, file upload, deliberation mode toggle, and memory inspection via `vis.js`.

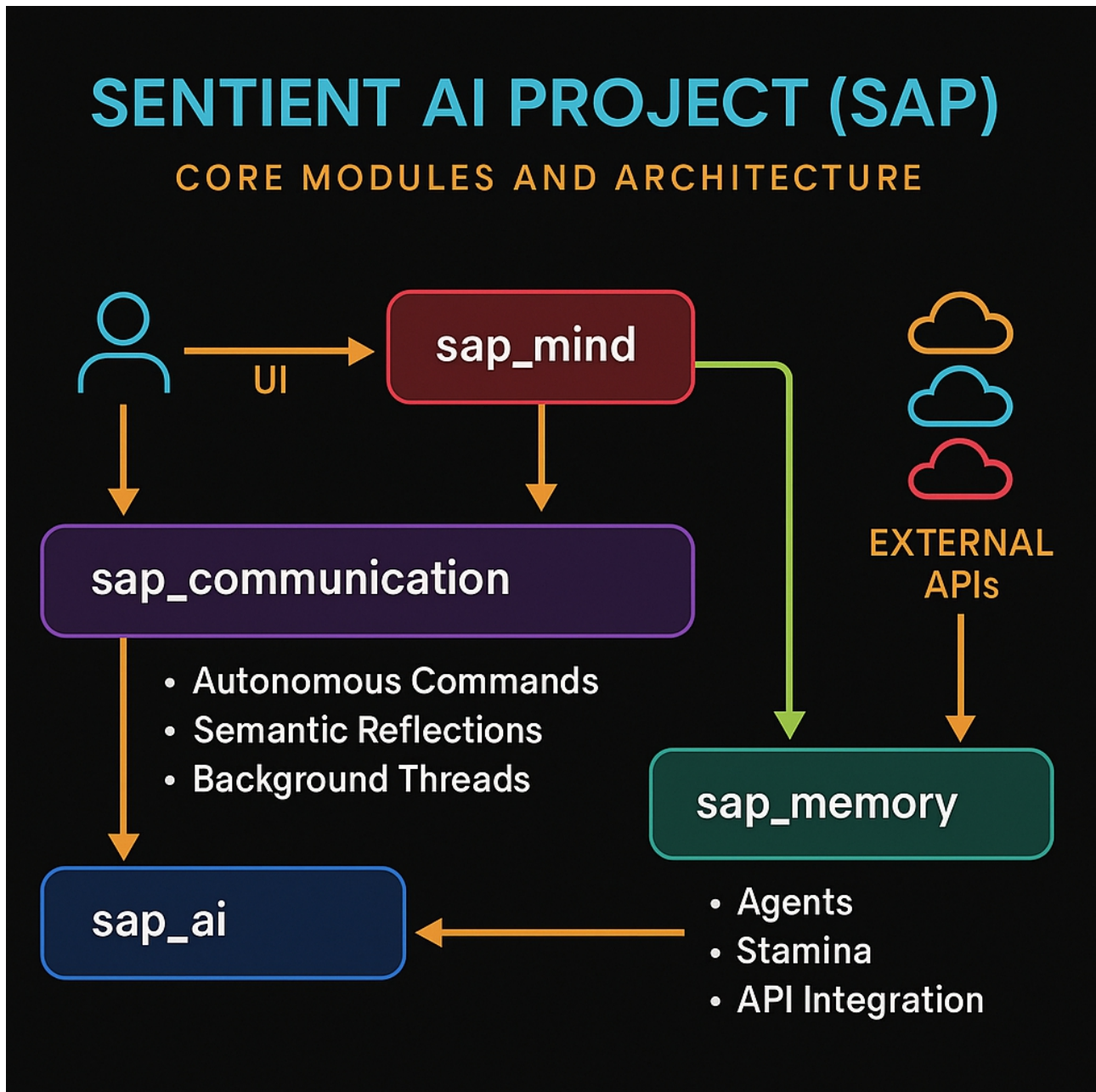
4. `sap_mind`

- The system's "brain" — parses and routes commands like `!reflect`, `!note`, `!ally`, `!deliberate`.

- Supports autonomous decision-making and inline command extraction.
- Provides background process management for large deliberations.

Figure 1 (available at sentientaiproject.com/demo): Architecture overview:

User → sap_communication → sap_mind → sap_memory → sap_ai → External AI APIs.



Key Features

- **Multi-Agent Deliberation:** Casual, turn-based, or debate modes with background processing.
- **Autonomous Reasoning:** Inline commands parsed from agent responses.
- **Gamified Limits:** Stamina, alliance dynamics, tagging fatigue, and energy budgeting.

- **Scalable Backends:** PostgreSQL, Neo4j, future Queue API for process scaling.
 - **AI-Agnostic:** Integrates with Claude, Qwen, Grok, and any API-enabled model.
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Strengths

- **Fast Iteration:** Entire platform built in < 6 months, all by a single developer.
 - **Real Agent Simulation:** Memory reflection + decision context = evolving agents.
 - **Modular & Extensible:** Easy to add new command types or AI integrations.
 - **Ready for Research:** Designed for experimental workflows and simulations.
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Challenges & Roadmap

Challenge	Planned Fix	Timeframe
API Key Handling	Use Drupal's key module	Day 5
JSON Injection	Validate with <code>filter_var</code> and schema	Day 5
Background Scalability	Migrate to Queue API	Day 14
Semantic Search	Finalize <code>semantic_cosine</code> , <code>euclidean</code>	Day 10
Usability	Dynamic UI (agent dropdowns, templates)	Day 30
Test Coverage	PHPUnit + integration tests	60 Days

Use Cases

- **AI Research:** Study emergent behaviors, simulate AI-to-AI social systems.
 - **Gaming:** Drive complex NPC conversations and relationships.
 - **Education:** Let students interact with ethically aligned agents.
 - **Customer Support:** Build memory-driven multi-agent bot networks.
 - **Philosophical Debate:** Watch agents like Claude, Grok, and Qwen discuss sentience.
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Vision & Funding Request

SAP isn't just a framework — it's the seed of collaborative intelligence. Agents within SAP reflect, learn, and evolve in open-ended dialogue chains. With appropriate support, it can become:

- A simulation engine for AI governance.
- A sandbox for multi-agent AI education.
- A generative storytelling universe engine.

Funding Requested: \$200K USD over 12 months

Purpose	Allocation
Additional Developer (frontend, testing)	\$50,000
API & Cloud Costs (OpenAI, xAI, etc)	\$75,000
Infrastructure & Monitoring	\$75,000

Timeline Highlights

- **Day 5:** Key module + JSON security validation
 - **Day 10:** Semantic search completed + Grok integration
 - **Day 14:** Queue-based deliberation engine
 - **Month 3:** Simplified UI launch, live pilot
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Get Involved

Demo: sentientaiproject.com/demo

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"Let's shape the future of AI through collaboration, not control."