MOUSSAIF AGI OS — REALTIME DOCUMENTATION & GAP RESEARCH HYPER-ABILITIES (20 HYPERSKILLS & 5 HYPER-ABILITIES)

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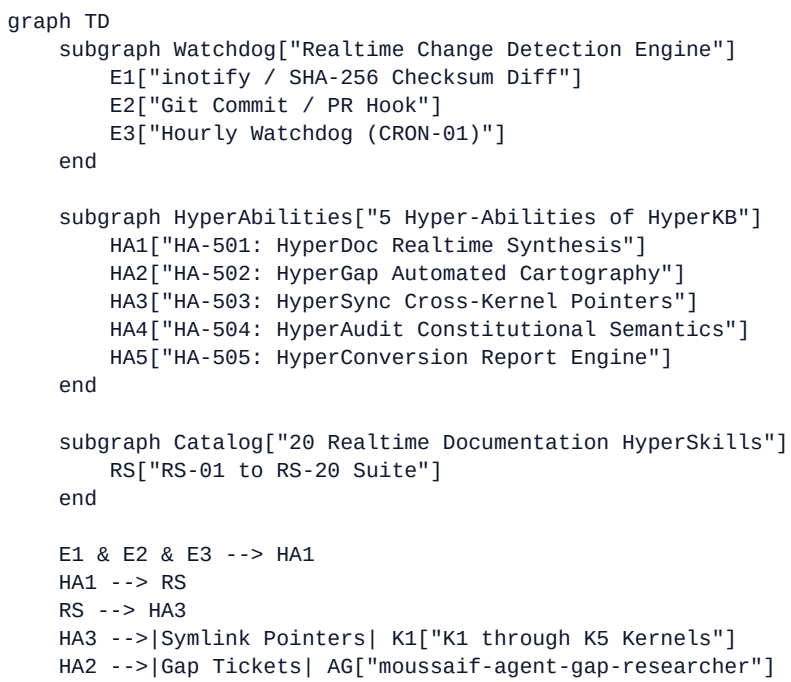
Genre: 04_Hyper_Abilities_and_Gap_Skills

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1. Executive Summary: Realtime OS Cartography

As an autonomous AI operating system evolves across multiple projects, kernels, and client environments, documentation lag becomes a primary source of architectural drift. When new components, API routes, or skills are added without immediate documentation, downstream agents hallucinate outdated interfaces.

The **Moussaif AGI OS** resolves this by deploying **20 Agile Realtime Documentation HyperSkills** (RS-01 to RS-20) and **5 Hyper-Abilities of HyperKB** (HA-501 to HA-505). These capabilities continuously monitor filesystem changes, author structured technical documentation on-the-fly, update canonical pointer tables, and conduct automated gap research across the entire OS.



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2. The 5 Hyper-Abilities of HyperKB

The 5 Hyper-Abilities represent system-wide cognitive primitives that govern how the OS processes documentation and architectural research:

HA-501: HyperDoc-Realtime-Synthesis

- **Mechanism**: Monitors AST (Abstract Syntax Tree) changes, new file creations, and configuration modifications. Instantly generates clean, human-quality markdown specifications and docstrings without placeholders.
- **Execution Gate**: Enforces zero-slop human voice (moussaif-gap-01-zero-slop-human-voice-enforcer).

HA-502: HyperGap-Automated-Cartography

- **Mechanism**: Continuously maps existing documentation against code implementation, API routes, and test suites. Detects missing points, undocumented arguments, unmapped skills, or unverified endpoints.
- **Execution Gate**: Produces a structured JSON/MD Gap Ticket (precise_missing_points_audit.json) for immediate resolution.

HA-503: HyperSync-Cross-Kernel-Pointers

- **Mechanism**: Ensures that whenever a new knowledge asset or report is generated in ~/.hermes/kb/ or 00_Scripts_and_Tools/, symlinks and pointer references in ~/.opencode, ~/.codex, ~/.claude, and ~/.gemini/antigravity are updated atomically.
- **Execution Gate**: SHA-256 digest validation before and after link mapping.

HA-504: HyperAudit-Constitutional-Semantics

- **Mechanism**: Evaluates every newly authored document or skill against T0–T4 constitutional safety tiers, ensuring no external side-effect instructions are documented without mandatory authorization gates.
- **Execution Gate**: Constitutional precedence audit (moussaif-gap-02-constitutional-t0-t4-gatekeeper).

HA-505: HyperConversion-Report-Engine

- **Mechanism**: Translates technical system telemetry, revenue logs, and architecture diffs into stunning, professional ReportLab PDFs and executive markdown briefs optimized for clarity and decision-making.
- **Execution Gate**: Visual typography & layout check (Deep Navy #14213d, Slate #0f172a, clickable TOC).

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3. The 20 Agile Realtime Documentation HyperSkills (RS-01 to RS-20)

| Skill ID | HyperSkill Name | Operational Scope & Mechanism | Trigger & Integration Point |

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| **RS-01** | realtime-component-intake | Detects new .py, .js, .md, or .json files in workspace; parses structure and registers component metadata. | File creation event / hourly watchdog |

| **RS-02** | agile-pointer-mapper | Creates zero-duplication symlink pointers in antigravity-brain-bridge.md and main-brain.md. | Component intake complete |

| **RS-03** | live-codebase-commenter | Inserts or updates clear, concise docstrings and type annotations in source code without altering runtime logic. | Post-refactor commit hook |

| **RS-04** | cross-kernel-state-tracker | Synchronizes component state and version IDs across K1-Hermes, K2-OpenCode, K3-Codex, K4-Claude, and K5-Antigravity. | Every 30-min sync cron |

| **RS-05** | gap-discovery-cartographer | Scans codebase for undocumented public methods, unlinked skills, or unreferenced KB chapters. | Daily 02:00 gap cron |

| **RS-06** | evidence-trace-logger | Logs every documentation creation or modification event with SHA-256 hash, timestamp, and agent ID. | Every file write operation |

| **RS-07** | schema-evolution-watcher | Detects modifications to database schemas, JSON configs, or MCP tool definitions and updates reference docs. | Schema diff event |

| **RS-08** | test-coverage-gap-scanner | Correlates documented components against unit test suites; flags any component lacking RED-GREEN-REFACTOR tests. | CI/CD test run |

| **RS-09** | dependency-graph-updater | Recomputes Directed Acyclic Graph (DAG) of project dependencies when imports or modules change. | Build / package update |

| **RS-10** | markdown-to-pdf-automation | Invokes ReportLab generation engine (convert_md_reports_to_pdf.py) to create a publication-ready PDF. | New markdown report saved |

| **RS-11** | readme-coherence-enforcer | Audits root README.md and DESIGN.md files across all project repos to ensure zero contradictions. | Weekly docs audit |

| **RS-12** | api-contract-validator | Compares OpenAPI/MCP tool definitions against runtime tool handler implementations. | Tool registration |

| **RS-13** | obsolete-doc-pruner | Detects deprecated functions or deleted files and archives/prunes corresponding documentation. | File deletion event |

| **RS-14** | semantic-versioning-tagger | Assigns semantic version tags (v1.x.x) to documentation releases based on breaking changes. | Git release tag |

| **RS-15** | constitutional-compliance-checker | Verifies that documentation does not encourage T3/T4 prohibited autonomous actions. | Document QA gate |

| **RS-16** | teaming-journal-broadcaster | Appends a structured summary of new components to the shared daily teaming journal. | Task completion |

| **RS-17** | memory-sqlite-indexer | Indexes new documentation text into FTS5 SQLite database (~/.hermes/memories/) for instantaneous recall. | Post-document creation |

| **RS-18** | revenue-telemetry-attributor | Connects documentation clarity to customer onboarding success and refund risk reduction. | Sales telemetry ingest |

| **RS-19** | client-deliverable-qa-gate | Enforces visual styling, grammar, and completeness checks on external client deliverables. | Final client export |

| **RS-20** | self-healing-doc-pipeline | Automatically repairs broken markdown links, unescaped XML symbols, or missing image captions. | Pre-PDF compilation |

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4. Integration with Specialized Agents & Cron Watchdogs

The 20 HyperSkills and 5 Hyper-Abilities are operationalized by two dedicated agents:

1. **moussaif-agent-realtime-documenter**: Executes RS-01 through RS-10, ensuring that any new code or system component is documented within 60 minutes of creation (CRON-REALTIME-DOC-01).

2. **moussaif-agent-gap-researcher**: Executes RS-11 through RS-20 and HA-502, performing daily audits (CRON-GAP-RESEARCH-02) to expose hidden architectural blind spots and enforce the Destruction Court quality standards.