MOUSSAIF AGI OS — 5 HYPERKB REALTIME ABILITIES FOR AGILE DOCUMENTING & GAP RESEARCH

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Classification: T1-Hyper-Abilities Canonical Specification

Author/System: Moussaif AGI Agentic OS / K1-Hermes & K5-Antigravity

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Genre: 04_Hyper_Abilities_and_Gap_Skills

Executive Summary

This specification establishes the **5 HyperKB Realtime Abilities** (HA-501 through HA-505). These higher-order cognitive capabilities govern how the OS processes agile documentation, cross-kernel symlink pointers, and architectural gap cartography across all projects and client deliverables.

```
graph LR
    HA501["HA-501: HyperDoc
Realtime Synthesis"] -->|AST Intake| HA502["HA-502: HyperGap
Automated Cartography"]
    HA502 -->|Gap Resolution| HA503["HA-503: HyperSync
Cross-Kernel Pointers"]
    HA503 -->|Symlink Mapping| HA504["HA-504: HyperAudit
Constitutional Semantics"]
    HA504 -->|Safety Check| HA505["HA-505: HyperConversion
Report Engine"]
```

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1. HA-501: HyperDoc-Realtime-Synthesis

- **Definition**: The ability to synthesize professional, zero-slop technical documentation in real-time as source code ASTs are modified.
- **Cognitive Protocol**:

1. Detect code changes via git diff or filesystem watchers.
2. Parse exported symbols, function signatures, type annotations, and module docstrings.
3. Author comprehensive Google-style / NumPy-style Markdown specifications and inline comments.
4. Enforce the Zero-Slop Human Voice doctrine (moussaif-gap-01).

- **Output Artifact**: Validated .md documentation file in target genre directory.

2. HA-502: HyperGap-Automated-Cartography

- **Definition**: The ability to inspect system semantics, compare documentation against runtime implementations, and automatically chart architectural blind spots.
- **Cognitive Protocol**:

1. Read public API routes, MCP tool schemas, and exported library functions.
2. Map symbols against existing markdown headers in 01_ through 05_ genres.
3. Identify any unmapped endpoint, untested function, or undocumented argument.
4. Generate a structured Gap Ticket (precise_missing_points_audit.json) with prioritized remediation steps.

• **Output Artifact**: Comprehensive gap research report and automated ticket dispatch.

3. HA-503: HyperSync-Cross-Kernel-Pointers

• **Definition**: The ability to maintain atomic pointer coherence across all 5 AGI kernels without duplicating storage.

• **Cognitive Protocol**:

1. Monitor file creations in ~/.hermes/kb/ and 00_Scripts_and_Tools/.
2. Compute SHA-256 digests and record them in MOUSSAIF_SHARED_BRAIN.md.
3. Update symlinks across ~/.hermes/, ~/.opencode/, ~/.codex/, ~/.claude/, and ~/.gemini/antigravity/.
4. Prune broken symlinks or conflicting OneDrive versions.

• **Output Artifact**: Verified zero-duplication symlink graph.

4. HA-504: HyperAudit-Constitutional-Semantics

• **Definition**: The ability to audit documentation and code against T0–T4 constitutional safety tiers.

• **Cognitive Protocol**:

1. Analyze documentation text for instructions involving external side-effects (T3) or prohibited mutations (T4).
2. Verify that explicit authorization gates are documented before any T3 command.
3. Flag any skill or document that violates AGENTS.md constitutional precedence.

• **Output Artifact**: Signed Constitutional Compliance Certificate.

5. HA-505: HyperConversion-Report-Engine

• **Definition**: The ability to transform raw system telemetry, logs, and technical diffs into executive-level ReportLab PDFs and Master Consolidated books.

• **Cognitive Protocol**:

1. Ingest markdown reports from all 5 genres.
2. Apply professional color palettes (#14213d Deep Navy, #0f172a Slate, #1e293b Charcoal).
3. Clean XML characters (& -> &, < -> <) and format fenced code blocks.
4. Compile clickable Tables of Contents, running footers, and page numbers.

• **Output Artifact**: Authoritative ReportLab PDF reports (.pdf).