**1. The Domain & Stakes Taxonomy Document**

**Version:** 1.0
**Status:** Draft

**1.1 Domain Categories**

The Router classifies all incoming requests into one of the following high-level domains to determine the appropriate specialist model and reasoning strategy.

- **Coding (Architecture)** (coding_architecture)

    - **Definition:** Requests involving system design, refactoring, patterns, modularity, or high-level structural decisions.

    - **Keywords:** refactor, architecture, design pattern, microservice, interface, dependency injection.

- **Coding (Implementation)** (coding_implementation)

    - **Definition:** Requests involving writing specific functions, classes, scripts, debugging, or optimization tasks.

    - **Keywords:** implement, write function, debug, optimize, script, algorithm.

- **Reasoning & Planning** (reasoning)

    - **Definition:** Requests requiring logical analysis, strategy formulation, comparison, or problem-solving without generating code.

    - **Keywords:** analyze, evaluate, plan, strategy, compare, tradeoff.

- **Creative Writing** (creative)

    - **Definition:** Requests for narrative, stylistic, or open-ended content generation.

    - **Keywords:** story, blog, narrative, poem, style, tone.

- **Documentation** (documentation)

    - **Definition:** Requests to explain code, write manuals, generate summaries, or create specifications.

    - **Keywords:** document, readme, explain, guide, summary, specification.

- **Unknown** (unknown)

    - **Definition:** Fallback category for requests that do not match specific domain patterns, triggering embedding-based retrieval.

**1.2 Stakes Levels**

Stakes determine the rigor of validation and the cost of execution.

- **High Stakes** (high)

    - **Definition:** Critical tasks where errors have significant consequences (e.g., production code, security, financial data).

- **Triggers:** High complexity scores (>5) or presence of risk indicators (production, security, payment).

- **Medium Stakes** (medium)

  - **Definition:** Important but non-critical tasks (e.g., optimization, integration, internal tools).

  - **Triggers:** Moderate complexity scores (2-4) or medium risk indicators (database, api).

- **Low Stakes** (low)

  - **Definition:** Experimental, prototype, or creative tasks where errors are acceptable or easily fixed.

  - **Triggers:** Low complexity scores (<2) or low risk indicators (prototype, draft).

## 1.3 Modality Categories

These categories define the input processing pipelines required before the Router can reason about the text.

- **OCR** (ocr)

  - **Definition:** Extraction of text from scanned documents, PDFs, or images containing dense text.

  - **Triggers:** File attachments with text content, keywords like scan, extract text.

- **Vision** (vision)

  - **Definition:** Semantic understanding of images, diagrams, charts, or visual scenes.

  - **Triggers:** Image attachments requiring description, keywords like describe image, what is this.

- **Embeddings** (embeddings)

  - **Definition:** Semantic search and retrieval from the memory ledger or vector store.

  - **Triggers:** Requests requiring context from past interactions, keywords like recall, similar to, search.