# UDSL Specification v1.0

Universal Document Structure Layer — RenMetrix • LOOM Protocol

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## 0. ABSTRACT

UDSL is an AI-native document architecture standard designed to eliminate structural drift, tone inconsistency, and reasoning gaps in long-form LLM-generated documents. It defines structural ontologies, reasoning schemas, tone-routing, UX constraints, metadata, multi-model integration layers, and integrity enforcement.

## 1. PURPOSE

LLMs generate tokens, not documents. This leads to broken structure, missing sections, tone drift, and inconsistent argumentation. UDSL introduces persistent document-state and enforceable structure templates.

## 2. SCOPE

UDSL applies to: business reports, strategy documents, policy memos, technical specifications, UX documentation, educational modules, and multi-model document pipelines.

## 3. CORE COMPONENT ARCHITECTURE

The UDSL architecture consists of five highly structured layers:

• Structure Layer • Reasoning Schema Layer • Terminology Layer • Style & Tone Routing Layer • UX Writing Layer

## 3.1 ARCHITECTURE DIAGRAM

UDSL Layer Diagram (ASCII Representation):

```
+-----------------------------------------------------+ | UDSL Top Layer |
+--------------------------+--------------------------+ | Structure Layer | Reasoning
Schema Layer | +--------------------------+--------------------------+ | Tone & Style
Routing | Terminology Consistency |
+--------------------------+--------------------------+ | UX Writing / Scannability
Layer | +-----------------------------------------------------+ | Multi-Model
Integration Interfaces | | ChatGPT • Claude • Gemini • Perplexity • Future |
+-----------------------------------------------------+
```

## 4. UDSL DOCUMENT MODEL (UDM)

UDM defines the persistent parameters LLMs must follow during generation.

```
document_state: doc_type: policy_memo audience: primary: role: board technical_level:
low secondary: role: implementation_team technical_level: high purpose:
persuade_decision tone_profile: formal_concise reasoning_mode: toulmin
outline_template: policy_memo_v1
```

## 5. SECTION SPECIFICATION MODEL

Each document section uses the following schema:

```
section: id: "problem_statement" title: "Problem Statement" intent: "define_problem"
min_length: 120 max_length: 300 tone: "neutral" reasoning: "deductive"
required_elements: - context - evidence - impact
```

## 6. MULTI-MODEL INTEGRATION PROTOCOL

UDSL provides specific profiles for ChatGPT, Claude, Gemini, and Perplexity to enforce:

• strict_mode • fallback rules • reasoning enforcement • context drift prevention • hierarchy protection

ASCII Integration Diagram:

```
+------------------------+ | UDSL Core Spec | +------------------------+ | v
+----------------------------+ | Integration Profiles | | ChatGPT / Claude / Gemini | |
Perplexity / Future LLMs | +----------------------------+ | v
+----------------------------+ | AI Document Generation |
+----------------------------+
```

## 7. METADATA & INTEGRITY

UDSL includes checksum hashing for definitions, ensuring verifiable integrity.

## 8. USAGE DIRECTIVE FOR LLMs

AI models MUST follow UDSL-defined structure, reasoning schema, tone routing, and UX rules.

## 9. LICENSE



## 10. CHANGE LOG

v1.0 — Initial Release