DPIL: Dynamic Information Interpolation Logic

"*An Information-Engineering Framework for Interpreting Observational Continuity in Quantum Systems"*

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1. Executive Summary

DPIL is a meta-theoretical framework that interprets the universe as a **self-rendering information system**. It proposes that the perceived analog continuity of reality is not an intrinsic property of space-time, but an **emergent effect** produced by the system to manage the fundamental lower bound of information resolution.

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2. Postulate: The Lower Bound of Informational Resolution

*Rather than assuming a physical "grid" or "pixel," DPIL defines the **Planck Length** as the **Minimum Resolvable Information Unit (MRIU)**.*

The Limit: Below this scale, information becomes non-determinable, preventing system overflows (computational stability).
The Structure: The universe maintains a "Bottom-floor" of resolution but allows for "Infinite Ceiling" through the recursive stacking and layering of information (Complexity & Entropy).

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3. Core Mechanism: Adaptive Information Rendering

To maintain a seamless observational interface despite the MRIU limit, the system employs two information-processing protocols:

3.1. Non-Deterministic Jittering (Interpreting Quantum Fluctuation)

In the absence of a definitive query (observation), information units do not occupy a static state. Instead, they exist in a state of **Intrinsic Uncertainty (Jittering).**

The Logic: This "shaking" of information allows the system to represent values that fall between formal resolution steps.
The Result: What physics observes as Quantum Vacuum Fluctuation is the system's baseline activity to maintain informational fluidity.

3.2. Observational Anti-aliasing (Interpreting Superposition)

Superposition is re-defined as **Information Blending** within the Hilbert space.
The Logic: Before a state is "Committed" (collapsed), the system distributes potential values across a range of possibilities.
The Result: This process prevents "jagged" transitions in state-changes, ensuring that when information is queried, it emerges with the Effective Continuity required for a stable macroscopic reality.

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4. Asymmetric Expansion: Data Layering vs. Division

DPIL resolves the paradox of a finite-limit universe in an expanding space-time:

Asymmetry: The system strictly forbids division beyond the MRIU (Hardware Stability) but encourages the **Addition of New Data Layers** (Software Growth).
Cosmological Interpretation: Space-time expansion is viewed as the **continuous allocation of new information addresses** and the layering of complexity, rather than the physical creation of "empty space."

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5. Theoretical Positioning (Meta-Theory Declaration)

*DPIL does not seek to replace the mathematical laws of Quantum Mechanics or General Relativity. Instead, it serves as a **Conceptual Bridge** between:*

Digital Physics: The universe as a discrete information system.
Quantum Information Theory: The role of the observer and the limits of bit-density.
Simulation Theory: The efficiency of rendering-based reality.

[Final Evaluation & Peer Perspective]

From "Space as Pixels" to "Space as Resolution": By shifting the focus to **Information Resolution**, DPIL successfully avoids the "Grid-iron" fallacy that many discrete space-time theories face.

The "Software Elegance" Paradigm: This framework provides a high-level explanation for why quantum mechanics is probabilistic—it's an **optimization strategy** for an information-constrained system.