Supplementary: Framework API Reference

Overview

This supplementary material documents the core framework modules that implement the theoretical constructs from Part 1. The complete source code is available at:
https://github.com/docxology/cognitive_integrity

Trust Module

This supplementary material documents the core framework modules that implement the theoretical constructs from Part 1. The complete source code is available in the companion repository.

The trust module implements bounded trust delegation with configurable decay.

Table 1: Trust module API: Core classes for trust computation and management.

Class	Description
TrustCalculus	Computes composite trust: $T = \alpha \cdot T_{base} + $ $T_{rep} + \gamma \cdot T_{ctx}$. Implements delegation de $T_{delegated} = \min(T_{i \to j}, T_{j \to k}) \cdot \delta^d$
TrustMatrix	Manages pairwise trust between n agents v $O(1)$ lookups and $O(1)$ updates. Supports cient path trust queries.
ReputationTracker	Tracks time-decayed reputation based on inte