

Systemics Minimal Specification (K1)

Charter

Charter (*normative*)

specifies a contract-shaped kernel that produces decisions from posted evidence under benign variation, with replayable records, without making domain assumptions.

Alphabet (Objects & Maps)

Alphabet (*normative*)

- U : universe of artifacts
- V : valuation space (any measurable space; commonly $\mathbb{R}^k \times \mathbb{B}^m$)
- $\mathbb{2}$: decision space $\mathbb{2} := \{0,1\}$
- γ : frames / benign contexts
- P_n : probes / benign perturbations
- \leq : floors/thresholds (partially ordered set)
- ϵ : invariance budgets (tolerances in a poset/lattice)
- C : capacity budgets (bits/time/energy constraints)
- μ : envelope/meta (versions, seeds, numeric modes, commits)
- R : records (canonical map bytes; hash/ledger optional)

Definition: Systemic Kernel

Systemic Kernel (*normative*)

A systemic kernel is the tuple: $K^\wedge := (v, \gamma, P_n, \leq, C, \mu)$, where $v: U \rightarrow V$ and $\gamma: V \times \mathbb{R}^k \times \mathbb{B}^m \rightarrow \mathbb{2}$.

Metrics & Order

Wobble and orderings (*normative*)

assumes a divergence ("wobble") $w: V \times \mathbb{R}^k \times \mathbb{B}^m \rightarrow \mathbb{R}_{\geq 0}$ on decision-relevant coordinates. Orders: $\gamma' \leq \gamma$ means tightening floors; $\epsilon' \leq \epsilon$ means tightening budgets; $C' \leq C$ means shrinking capacity.

Axioms (Minimal Core)

-A1 Well-typedness *(normative)*

All maps are measurable/continuous as needed; is total on $V \in \mathbb{C} \in \mathbb{C}$.

-A2 Posting / Records-only *(normative)*

For any run on $u \in U$, the record R contains $(v(u), \text{,}, \text{,} C, \text{,} P_n, \text{,})$, and the decision equals $\text{*(u;)} = (v(u), \text{,}, \text{,})$, with no dependence on unposted data.

-A3 Benign invariance *(normative)*

Let $(,p) \in P_n$ act on the measurement/evaluation pathway to yield $v\{,p\}(u)$. Define $W(u) := \sup\{(,p)\} w\{v\{,p\}(u), v\{0,p0\}(u)\}$. If $W(u)$ then for all benign $(,p)$, $(v\{,p\}(u), \text{,}, \text{,}) = (v\{0,p0\}(u), \text{,}, \text{,})$.

-A4 Minimal sufficiency under capacity *(normative)*

Among valuations preserving decisions under posted $(, \text{,})$, v is minimal w.r.t. capacity cost subject to C : for all v' , $(v' = v) \text{ cost}(v') \leq \text{cost}(v)$, subject to C .

-A5 Reflexive reproducibility *(normative)*

There exists an admissible, independently realized v' (different numeric/route) such that $(v(u), \text{,}, \text{,}) = (v'(u), \text{,}, \text{,})$, with both posted in (self-warrant).

-A6 Determinism & idempotence *(normative)*

For fixed $(v(u), \text{,}, \text{,})$, the decision is is unique and idempotent under re-evaluation.

-A7 Monotonicity *(normative)*

Tightening floors or budgets cannot rescue a failure by hidden dependence. For ' and ' , $(v, \text{,}, \text{,}) = 1$ implies $(v, \text{'}, \text{'}) \in \{0,1\}$ with no hidden rescue: tightening must not create a pass whose justification depends on data not posted in the record.

-A8 Isomorphism invariance *(normative)*

If a frame induces a structure-preserving isomorphism on representation, decisions are invariant.

Conformance (Lawful Record)

-lawful record checklist *(normative)*

A record R is -lawful iff it includes: (1) contract $(, \text{,} C, \text{,} P_n, \text{,}$ and guards), (2) valuation $v(u)$ (decision-relevant coords), (3) decision $(v(u), \text{,}, \text{,})$ with reasons, (4) invariance evidence (wobble metrics + worst-case $(,p)$), (5) reflexive warrant $(v'(u)$ and agreement), (6) canonicalization: canonical bytes, digest d , and optional chain root.

Morphisms of Systemics

Morphism F: ' *(normative)*

A morphism $F: \text{'}$ is a pair (U, V) such that the following commutation laws hold: $v' U = V v$, and $\text{' } (_ V \in \text{id}) = \text{'}$. A morphism also maps contracts monotonically so that axioms remain satisfied.

Morphism preservation *(normative)*

A morphism preserves valuation and decision structure by satisfying: $v' U = V v$, $\text{' } (_ V \in \text{id}) = \text{'}$. It also maps contract parameters monotonically and preserves -A1..-A7.

Instantiation Recipe (Domain-Agnostic)

Recipe *(informative)*

Choose $U, V, v, \text{;}$ post $\text{,}, C, P_n$, and wobble metric w ; establish -A1..-A7 by construction/tests; emit lawful and optionally chain pages into books.

Notes

Notes (*informative*)

This specification does not fix what v measures, what \mathcal{C} decides, or how w is computed. It only requires posting, invariance under benign variation, minimal sufficiency under capacity, and reflexive reproducibility. Evidence Systemics is one instantiation where v encodes evidence gauges; other instances (Control, Protocol, Risk, Learning, etc.) keep the same \mathcal{C} contract while choosing different v , \mathcal{C} , w .

References

- GraphFrame K0 (GF0) ([link](#))
- SpecFrame K1 ([link](#))
- Composition (separate spec) ([link](#))