

NIPC – Neon Ink Palette Contract

The canonical color authority for Aptlantis Studio. This document defines semantic color families, token roles, psychological intent, intensity rules, and palette validation across generated artifacts, website UI, and brand surfaces.

NEON INK V0.1

AIC V0.1.X

SESM V0.2.X



The Core Principle

Color should reduce cognitive load before it adds beauty.

The beauty emerges from consistency. When users can read intent from color alone – without being taught – the system becomes a cognitive tool, not just a style guide. This principle governs every token, family, and rule in the NIPC.

Cyan

Understand

Green

Trust

Yellow

Notice

Red

Stop

Violet

Process

Magenta

Discover

Canonical Document Hierarchy

NIPC is the palette authority within a four-layer spec set. Each layer has a distinct responsibility – none overlap, and all interlock.

1

NeonInk v0.1

Brand system, typography, panel grammar, page composition, voice

2

AIC v0.1

Artifact types, required fields, layout regions, render targets – Expression

3

NIPC

Color families, semantic roles, psychological intent, intensity, validation – Contract

4

SESM v0.2

Embedded metadata, identity, provenance, links, agent hints –
Meaning

Current System Strengths

The existing palette is already clean, functional, and strategically sound. It separates **hue** (semantic role) from **brightness and glow** (state intensity) – a foundational design decision that prevents neon chaos and preserves legibility at scale.

Cyan / Blue

Info, structure, general explanation → *Calm, clarity, system trust*

Violet

Process, how-it-works → *Abstract thinking, transformation*

Yellow

Important, caveat, attention → *Alertness, emphasis, memory anchor*

Red

Critical, risk, constraint → *Stop, danger, error, urgency*

Green

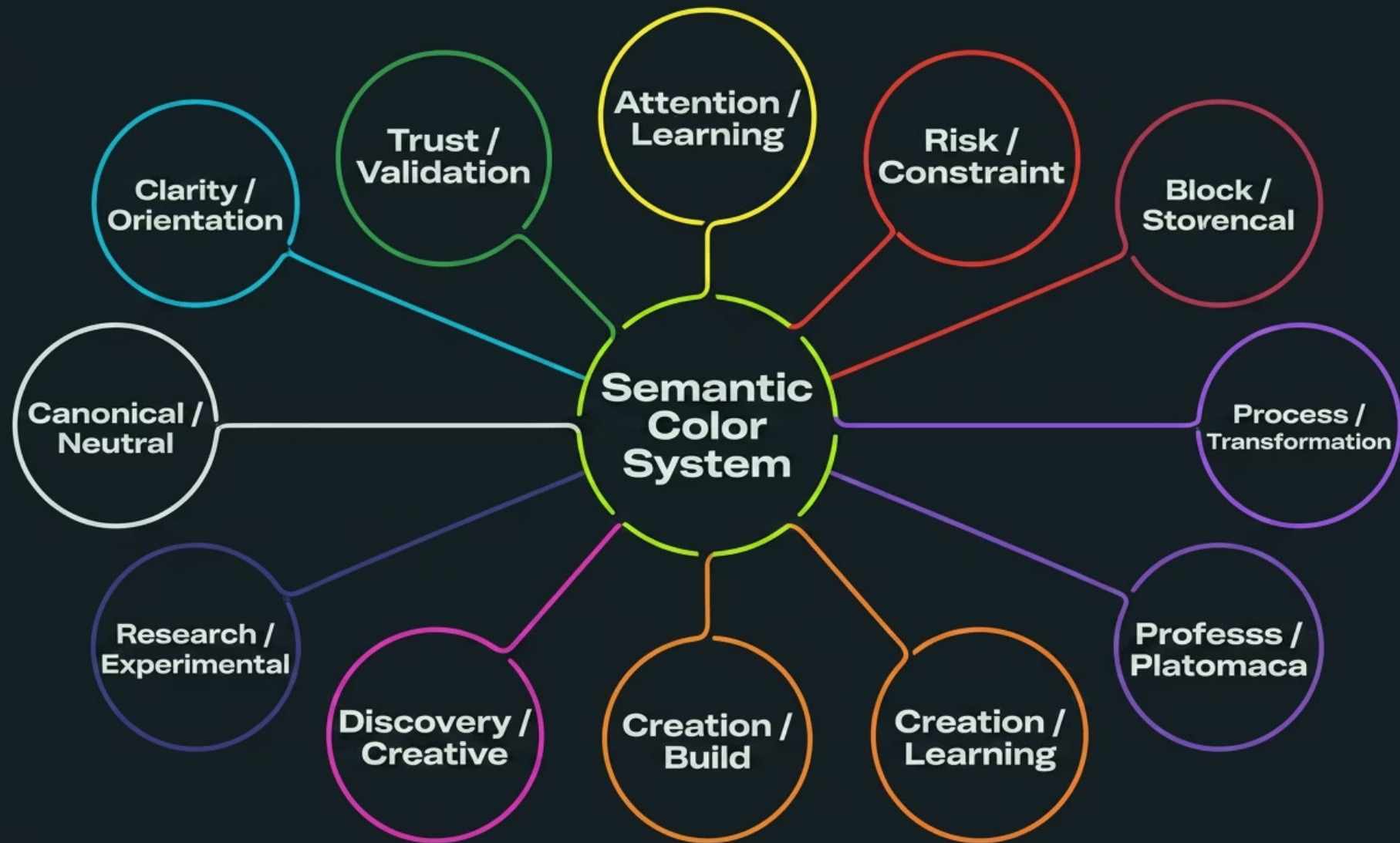
Validated, good, supported → *Trust, safety, completion*

Magenta

Featured, creative → *Novelty, specialness, personality*

The Expansion Model: Color Families

Rather than adding individual colors, NIPC expands into **color families** – each family maps to a psychological function, enabling users to learn the system subconsciously. The architecture is: **Color Family** → **Psychological Function** → **Semantic Roles** → **Token Variants**.



Each family reinforces a subconscious expectation: cyan-ish things orient you, green-ish things signal trust, yellow marks what you must not miss. That depth of coherence is far more powerful than a flat list of 20 independent tokens.

FAMILY A

Clarity / Orientation Family

Use when the user needs to understand **where they are, what something is, or how to read it**. Blue and cyan feel calm, competent, and technical – lowering perceived risk and making dense interfaces feel navigable. This should be the **dominant family** across Aptlantis Studio.

info

#22D3EE · General info panels, existing cyan default

structure

#06B6D4 · Layout, architecture, schemas

navigation

#38BDF8 · Nav cards, related links, "where to go next"

reference

#7DD3FC · Canonical docs, definitions with links

orientation

#67E8F9 · Intro panels, "start here" blocks

 Use heavily, but softly. Cyan is the system's ambient tone – it should feel like a background hum of clarity, not a shout.

FAMILY B

Trust / Validation Family

Use when the user needs to know **this is usable, verified, safe, complete, or recommended**. Green signals permission and safety — "you can proceed."

- ✓ Reserve green for evidence-backed status only. If everything positive is green, it loses its meaning entirely.

success ·#34D399

Validated / good — existing green default

verified ·#22C55E

Confirmed — dataset verification, checks passed

stable ·#86EFAC

Mature / safe — stable pipelines, production-ready

reproducible ·#2DD4BF

Hashes, manifests, deterministic builds

available ·#A7F3D0

Present / downloadable — download cards, mirror availability

Attention, Risk & Process Families

Three families govern the most cognitively loaded signals in the system – what to notice, what to stop for, and how the machinery works.



C ·Attention / Learning

Yellow family. Use as a marker, not a background. Left rail, badge, icon accent, or underline. Never fill a panel yellow – it causes fatigue and loses emphasis.

- important ·#FACC15
- note ·#FDE047
- caution ·#FBBF24
- decision ·#F59E0B
- memory-anchor ·#FEF08A



D ·Risk / Constraint

Red family. The strongest visual interrupt in the system. Red is *sacred* – it must mean something needs attention before proceeding. Never use red for ordinary emphasis.

- critical ·#F43F5E
- error ·#EF4444
- blocked ·#FB7185
- constraint ·#E11D48
- deprecated ·#BE123C



E ·Process / Transformation

Violet family. Abstract, conceptual, slightly futuristic. Means "this explains the machinery." Violet should never substitute for risk or trust signals.

- process ·#A78BFA
- pipeline ·#C084FC
- transform ·#D8B4FE
- automation ·#8B5CF6
- orchestration ·#DDD6FE

Build, Discovery & Research Families

F · Creation / Build

Orange family. Energetic, action-oriented – work is being done. Violet *explains* the pipeline; orange *executes* it. Use for code, CLI, generator output, and build steps.

G · Discovery / Creative

Magenta family. Novel, expressive, emotional. Use sparingly so it retains the feeling of "this is special." Featured panels, homepage highlights, human-facing delight.

H · Research / Experimental

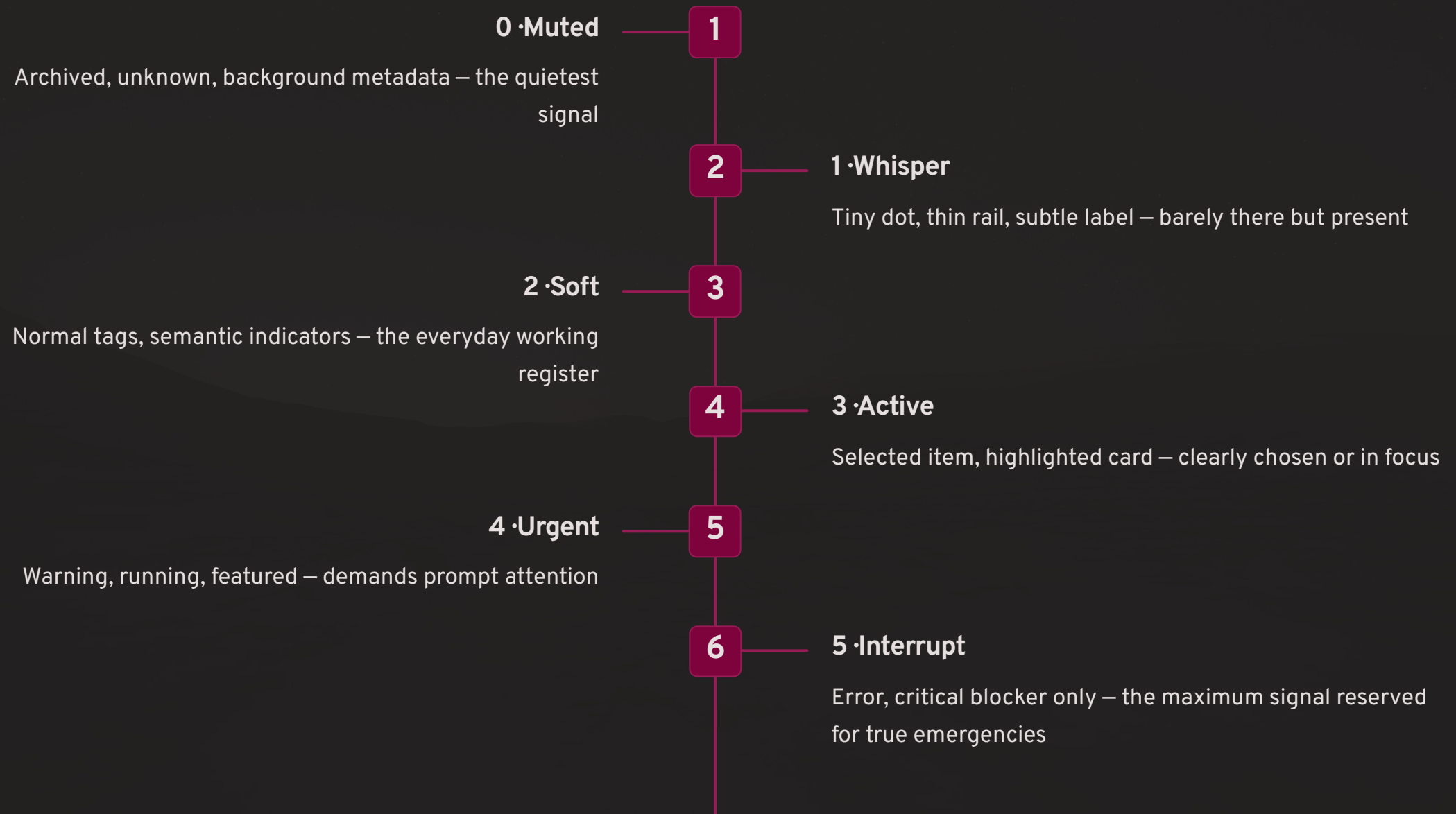
Indigo family. Thoughtful and exploratory – sits between trust-blue and abstraction-purple. Indigo does *not* mean "bad." It means "not fully settled yet."

I · Canonical / Neutral

White/Slate family. Neutral is the oxygen around the neon. Every bright semantic color needs nearby neutral restraint to preserve elegance and readability.

Recommended Intensity Scale

Hue carries semantic role. Intensity carries state. The two dimensions are independent – a pipeline can be conceptually "process/violet" while operationally in an "error" state. Keeping them separate is what distinguishes neon language from neon noise.



Six Visual Rules

These rules are not preferences – they are the contract. Violating them degrades the cognitive signal of the entire system for every user who has learned to read it.

1

One dominant accent per artifact

Each card or panel gets one primary semantic color. Secondary colors appear only as tiny badges, icons, micro-rules, or metadata dots.

2

Red is sacred

Red must mean: error, critical, blocked, constraint, or deprecated. Do not use red just because it looks striking.

3

Yellow is a memory marker

Use yellow as a small, sharp marker – a left rail, badge, underline, or icon accent. Avoid yellow backgrounds entirely.

4

Green requires evidence

If something is merely positive but not verified, use cyan or magenta instead. Green demands evidence-backed status.

5

Magenta is the delight layer

Use it rarely enough that it genuinely feels special – featured, creative, spotlight, human note, discovery.

6

Neutral preserves elegance

For every bright semantic color, place nearby neutral restraint: dark panel, muted border, soft label, low-glow background.

Color Mapping for Q&A Pages

The Q&A page is where the color system can transform a wall of answers into a **cognitive map**. Each question type carries a distinct psychological direction that primes the reader before they even read the answer.

Question Type	Color Role	User Effect
What is this?	info / canonical	Calm understanding
Why does this matter?	important / memory-anchor	Increased retention
How does it work?	process / pipeline	Step-by-step thinking
What can I do with it?	operation / build	Action readiness
Is it trustworthy?	verified / reproducible	Confidence
What are the limits?	constraint / caution	Careful evaluation
What is experimental?	experimental / prototype	Proper expectation setting
What should I explore next?	discovery / navigation	Curiosity and movement

Artifact-Specific Recommendations

Color application must be scoped to artifact type. The same semantic role may render differently depending on the container – a `qa-item` uses a rail, a `pipeline-panel` uses a full background, and a `dataset-card` uses a header indicator.



qa-item

Small semantic rail or dot – never a full-color panel. Example:
[03] | yellow rail | WHY LOCAL-FIRST MATTERS [+]



dataset-card

Color answers: what kind of dataset is this? Rust corpus → orange. Validated model → green. Experimental → indigo. Canonical schema → white.



pipeline-panel

Main semantic color: violet (process). Overlay a small state marker for operational status: green pulse for success, yellow for warning, red for error.



theme-board

Add a psychology row alongside swatches: Color → Role → Psychological Intent → Best Artifact Types. The theme-board is the canonical home for this documentation.

AIC Extended Theme Object

AIC should move beyond a flat `semantic_role` field to a richer semantic styling object. This gives generators, validators, and future agents the full context needed to make deterministic, drift-resistant rendering decisions.

Proposed Field Structure

```
{
  "theme": {
    "id": "neon-ink",
    "semantic_role": "pipeline",
    "semantic_family": "process",
    "psychological_intent":
      "explain-system-flow",
    "state": "active",
    "intensity": 2,
    "glow": "soft",
    "priority": "medium"
  }
}
```

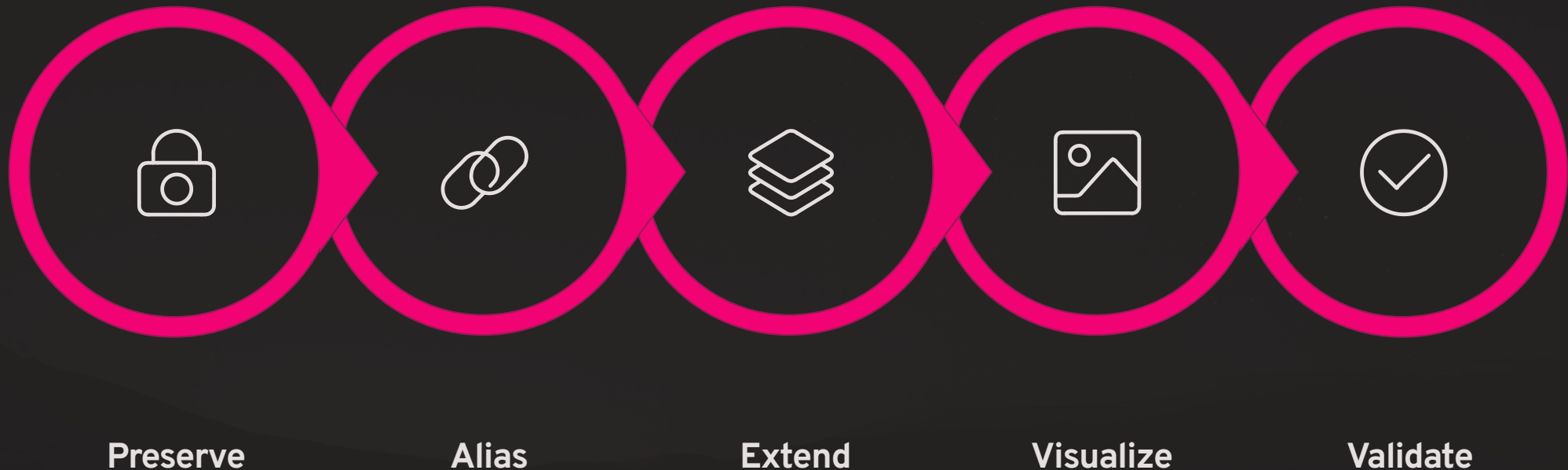
Why Each Field Matters

- **semantic_role** – tells the generator which color to apply
- **semantic_family** – enables UI grouping and filtering
- **psychological_intent** – documents why the color was chosen for future agents and validators
- **state + intensity + glow** – keep rendering fully deterministic and prevent drift across artifact generations

📌 This aligns perfectly with AIC's core purpose: binding Neon Ink visual semantics to generated artifacts.

Implementation Roadmap

Roll out the expanded palette system in five disciplined phases. Resist the temptation to use all 45 tokens immediately – the system earns its complexity through staged adoption and validation.



→ Phase 1 – Preserve

Keep the existing 9 core tokens exactly as-is. They are already correct and form the stable base everything else depends on.

→ Phases 2–3 – Expand Carefully

Add aliases under families, then update SESM/AIC fields with `semantic_family` and `psychological_intent`. Do not use all tokens everywhere immediately.

→ Phases 4–5 – Visualize & Validate

Build the theme-board SVG and add generator validation warnings. Red with non-risk roles, yellow at intensity > 3, or missing semantic indicators on `qa-item` should all trigger warnings.

The System in Full

Forty-five tokens. Nine families. One governing principle. The NIPC is not a style guide – it is a **palette contract**. Its power comes not from the richness of individual colors, but from the coherence of the system as a whole.

9

Color Families

Each maps to a distinct psychological function

45

Semantic Tokens

Grouped, not chaotic – families prevent drift

6

Visual Rules

Binding constraints that protect the system's signal integrity

5

Rollout Phases

Staged adoption that preserves stability while expanding expressiveness

Neutral is not boring. Neutral is the oxygen around the neon. And the user should eventually learn the system without being taught – that is the sweet spot: visually rich, emotionally pleasant, and cognitively useful.

