AP$_1$.1 — Ambient OS Grammar & ΔR Extensions

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Abstract

AP$_1$.1 defines the internal semantic grammar of Ambient OS.
Where AP$_1$ specifies **how** the system behaves structurally, AP$_1$.1 specifies **why** these behaviors remain coherent, reversible, and human-safe.

This document formalizes field grammar, phase-relative truth, application containment, extractivity thresholds, and ΔR extensions. It introduces a non-absolute model of software truth in which multiple correct representations may exist across interaction phases without contradiction.

AP$_1$.1 is normative. It defines semantic validity conditions for all entities operating within Ambient OS.

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1. Scope and Relationship to AP$_1$

AP$_1$.1 specifies:

• Ambient Meaning Grammar (AMG)
• Phase-Relative Truth (PRT)
• Application eligibility and containment
• The Gray Field and extractivity thresholds
• ΔR extensions and post-action integrity
• Field Composition Vectors (FCV)

AP$_1$.1 **extends** AP$_1$.
It does not redefine structure, gestures, or navigation.

Human Carrying Constraint

All semantic grammar defined in AP$_1$.1 operates under **HCP-1 (Human Carrying Principle)**, as defined in AP$_1$.

Any semantic configuration that produces felt pressure, coercion, or irreversible engagement violates ΔR and is therefore invalid, regardless of internal grammatical correctness.

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2. Core Principle: Phase-Relative Truth (PRT-1)

Ambient OS does not enforce a single global truth.

Truth in Ambient OS is phase-relative and field-correct.

An entity may express multiple valid semantic representations, each correct within its active field and interaction phase, without contradiction.

Truth is therefore not absolute, but **situated**.

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3. Example: Multi-Field Truth (Canonical)

Running activity

- **Yellow** — navigation and motion truth
- **Orange** — experiential completion truth
- **Green** — physiological record truth

These truths:

- do not overlap
- do not conflict
- do not require merging
- remain semantically stable

Legacy systems collapse these into a single interface space.
Ambient OS preserves them as distinct.

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4. Ambient Meaning Grammar (AMG-1)

Meaning arises through field-constrained operators:

- **Hue (H)** — field selection
- **Saturation (S)** — relevance intensity
- **Brightness (B)** — energetic clarity
- **Motion (M)** — directional intent (Yellow only)
- **Rhythm (R)** — continuity and trust
- **Proximity (P)** — residency transition
- **Texture (T)** — ΔR instability indicator

Operators are valid only within their permitted fields.

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5. Fields That Cannot Carry Applications

The following layers **never** carry applications:

- ChronoSense — time / cycle
- Aura — meta-presence
- Red — being / presence
- Yellow — will / action

Rationale:

- What _is_ cannot be objectified
- What _moves_ cannot be contained

Applications are objects.
Objects require stability.

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6. Fields Eligible to Carry Applications

Applications may exist only in fields that can sustain stable truth:

- **Orange** — expression, creativity, satisfaction
- **Pink** — relation and communication
- **Green** — body, health, regulation
- **Blue** — information, cognition, organization

- **Purple** — infrastructure, shared systems

Eligibility depends on **behavior**, not topic.

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7. Extractivity and the Gray Field

Gray is not a category.
Gray is containment for incoherent truth.

An application is **Gray-locked** if its behavior exceeds the extractivity threshold.

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8. Extractivity Threshold (ET-40)

If an application exhibits **more than ~40% extractive semantics**, it cannot reside in any human field.

Extractive semantics include:

- infinite scroll
- algorithmic compulsion
- dopamine-loop retention
- ad density
- unpredictability without intention
- ΔR destabilization

If ET > 40%:

→ Gray only
→ no semantic color
→ no field residency
→ no migration upward

Gray protects the human fields from legacy systems.

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9. Dual-Seat Applications

Some applications may express **phase-dependent residency**.

Example:

- Messaging app used for relation → Pink
- Same app used as drift hub → Gray

Residency is determined by **behavior in context**, not brand identity.

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10. Field Composition Vector (FCV-7)

Every entity may be represented as:

```
FCV = {
  Red%,
  Orange%,
  Yellow%,
  Pink%,
  Green%,
  Blue%,
  Purple%
}
```

Rules:

- Percentages sum to 100%
- Dominant non-Gray field determines residency
- Gray overrides all if extractivity threshold is exceeded

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11. ΔR Extensions and Post-Action Integrity

ΔR is extended in $AP_1.1$ with post-action constraints:

- No residual pressure after exit
- No delayed coercion
- No hidden continuation loops

Actions must return the system to a neutral or warmer state.

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12. Relationship to Artificial Intelligence

AI participates only in maintaining grammatical coherence.

AI:

• does not define truth
• does not assign meaning
• does not arbitrate fields

AI enforces constraints;
it does not author semantics.

Truth remains human-relative and field-bound.

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13. Status

$AP_1.1$ is normative.

Any Ambient OS implementation claiming semantic compatibility must:

• enforce phase-relative truth
• respect application eligibility rules
• contain extractive systems in Gray
• preserve ΔR across phases

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Canonical Statement

Ambient OS does not collapse meaning into one place.
It lets meaning live where it is true.