

Coding Scheme: Elaboration Depth

We based the coding on seven characteristics and coded, whether these were added over the LLM input:

Characteristics for Idea Elaboration (CIEs)

1. **Principle**
User added a guiding rule/ordering that steers later choices.
 2. **Mechanism**
User added how it works—a trigger, process, protocol, or algorithm.
 3. **Feature**
User added a distinct user-facing capability or mode.
 4. **Constraint**
User added a binding limit/requirement that gates behaviour.
 5. **Audience/Context**
User added the target users or setting where the idea applies
 6. **Integration/Architecture (incremental adaptation):** User integrated LLM input and added an incrementally new idea based on LLM input—combining, syncing, or restructuring components to extend/refine the same core concept.
 7. **Reframing/Pivot:** User provided a radically new idea based on LLM input—replacing the core frame/value logic so the concept serves a different primary purpose, audience, or setting.
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Elaboration Levels

For every interaction we coded these principles and applied a certain elaboration level based on it:

1) Level 1 — LLM-led echo (*accepts LLM rewrite as-is*)

- 0 CIEs (pure acceptance/endorsement). *Trigger:* nothing new added. → no new principle/feature/mechanism/value).
 - Depth move: none (endorsement).
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2) Level 2 — Minor elaboration: Integrates details provided by LLM

- CIEs integrated: ≥ 1 Feature or Mechanism, or a binding Constraint, Audience/context; but already provided by LLM, *Core frame unchanged.*
- (*No new mechanism/feature; concept unchanged.*)
- Depth move: surface tweak.

3) Level 3 — Substantive elaboration (*adds a shaping feature/mechanism*)

- Human CIEs added: ≥ 1 Feature or Mechanism, or a binding Constraint, Audience/context; but already provided by LLM, independently from LLM
 - Depth move: concrete conceptual detailing (feature + operational rule).
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4) Level 4 — Integrative advancement (*new idea*)

- Human CIE: Integration/Architecture (incremental adaptation)
User added an incrementally new idea based on LLM input—combining, syncing, or restructuring components to extend/refine the same core concept.
 - Depth move: integration + Creation.
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5) Level 5 — Human-led reframing (*pivot + new organizing mechanism*)

- User added a radically new idea based on LLM input—replacing the core frame/value logic so the concept serves a different primary purpose, audience, or setting.
- Depth move: conceptual pivot + radical innovation.