Intelligence Design Pattern Cards

CS-639 Interaction Design Studio
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CONFIDENCE INDICATOR P4 · SA-3 · AGENCY

Confidence on Predictions

> *The system predicts a future state, but the user doesn't know how certain the prediction is.*

EXAMPLE

Weather app: "70% chance of rain" — familiar confidence language. **Medical app:** "85% confidence this is benign" — stakes demand explicit numbers, not just color codes.

A2 PROMPT: Where does your system project what will happen next? What does the user see — a number, a color, a badge, or nothing?

CONFIDENCE INDICATOR P4 · SA-2 · AGENCY

Confidence on Classifications

> *The system categorizes something (spam, priority, mood), but the user can't tell if it's guessing or certain.*

EXAMPLE

Gmail: Spam filter moves email silently (high confidence). **Google Photos:** Face recognition asks "Is this Sarah?" (low confidence) — the question IS the confidence indicator.

A2 PROMPT: Does your system classify, sort, or categorize? How does the user know when the system is unsure?

PROCESSING STATE P3 · OPD-O · COLLABORATION

AI Thinking vs. Loading

> *The system is processing, but the user can't tell if it's retrieving data or making an inference — and doesn't know how long to wait.*

EXAMPLE

ChatGPT: "Searching the web..." then "Analyzing results..." — stage labels show progress. **Figma AI:** "Generating..." with a progress bar. Both say *what*, not just *wait*.

A2 PROMPT: Where does your system take time to process? Does it show a generic spinner or does it say what it's doing?

PROCESSING STATE P3 · P7 · CONTEXT

Background Learning

> *The system is learning from user behavior in the background, but the user has no idea it's happening — or what it's learning.*

EXAMPLE

Spotify: "Updating your recommendations..." appears occasionally — making the learning visible. **iOS keyboard:** Learns your typing silently — no indicator, which means users can't tell when it adapts.

A2 PROMPT: Does your system learn from the user? Should it tell them, or is silent learning appropriate here?

EXPLAINER P3 · P7 · SA-2

Glanceable Explanation

> *The system made a decision, and the user needs a quick signal that intelligence was involved — without interrupting their flow.*

EXAMPLE

Spotify Daylist: "chill indie Monday morning" — the label IS the explanation. It tells you what the system thinks your context is. **Gmail:** "Smart Reply" label above suggested responses.

A2 PROMPT: Where does your system act on the user's behalf? Is there at minimum a label or icon signaling that intelligence was involved?

EXPLAINER P3 · P7 · SA-3

Detailed Explanation

> *The system made a high-stakes recommendation, and the user needs to understand the reasoning before acting on it.*

EXAMPLE

Diabetes app: "Your glucose dropped 40 mg/dL in the last hour, matching your post-exercise pattern on Tuesdays — consider a snack." Full reasoning, available on demand. Depth matches the stakes.

A2 PROMPT: Where does your system make consequential recommendations? Can the user see the full reasoning — not just the suggestion?

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OVERRIDE CONTROL P9 · P10 · OPD-D

Dismiss & Correct

> *The system suggested something wrong, and the user needs to reject it — and ideally teach the system why it was wrong.*

EXAMPLE

Google Photos: "Not this person" on face recognition — dismisses AND corrects the model. **Spotify:** "Hide this song" — dismisses AND trains future recommendations. The best overrides do both.

A2 PROMPT: When your system gets something wrong, can the user dismiss it? Does the system learn from the correction?

OVERRIDE CONTROL P9 · AGENCY · PROACTIVITY

Undo Autonomous Actions

> *The system acted on its own (high agency), and the action was wrong — but it may already be too late to reverse it.*

EXAMPLE

Gmail Undo Send: 30-second window to reverse — works because sending is briefly reversible. **Financial app auto-transfer:** Cannot undo after execution — needs confirmation BEFORE acting, not undo after.

A2 PROMPT: Where does your system act autonomously? Is the action reversible? If not, does it confirm before acting?

ADAPTATION INDICATOR P6 · P8 · SA-2 · CONTEXT

Visible Context Shift

> *The system detected a context change and adapted the interface, but the user doesn't know what changed or why.*

EXAMPLE

iOS Focus Modes: Lock screen shows the active mode name — the user always knows which context the system thinks they're in. **Spotify Daylist:** Label changes throughout the day, making the context shift visible.

A2 PROMPT: When your interface adapts to a new context, can the user see what triggered the change? Or does the screen just... look different?

ADAPTATION INDICATOR P6 · P8 · AGENCY · CONTEXT

When to Adapt Silently

> *Not every adaptation needs to be announced. Some changes should be seamless. The question is: which ones?*

EXAMPLE

Dark mode: Adapts to time of day silently — low stakes, user expects it. **Navigation reroute:** Must announce "Rerouting due to traffic" — user needs to know why the path changed. **Rule:** Silent when stakes are low and the change is expected.

A2 PROMPT: Which adaptations in your system should be visible? Which can be silent? What's your reasoning?

MICROINTERACTION P8 · PROACTIVITY · TIMING

Proactive Suggestion Timing

> *The system has a suggestion, but showing it at the wrong moment makes it feel intrusive — and showing it too late makes it useless.*

EXAMPLE

Google Maps: "Leave by 8:15" appears with enough lead time to act. **Autocomplete:** Appears after a natural typing pause, not mid-word. **Rule:** Trigger at a pause in the user's task, not during focused activity.

A2 PROMPT: When does your system surface suggestions? Is the timing based on the user's task flow, or does it interrupt?

MICROINTERACTION P10 · OPD · COLLABORATION

Collaborative Handoff

> *Leadership is shifting between human and AI, but neither side knows who's in charge — or when the handoff happened.*

EXAMPLE

Figma AI First Draft: AI generates (AI-led) → user edits (human-led). The handoff is clear because the output appears as editable layers. **Tesla Autopilot:** Steering wheel icon shows who's driving — critical when stakes are high.

A2 PROMPT: Where does leadership shift in your system? How does the user know who's in charge at any moment?