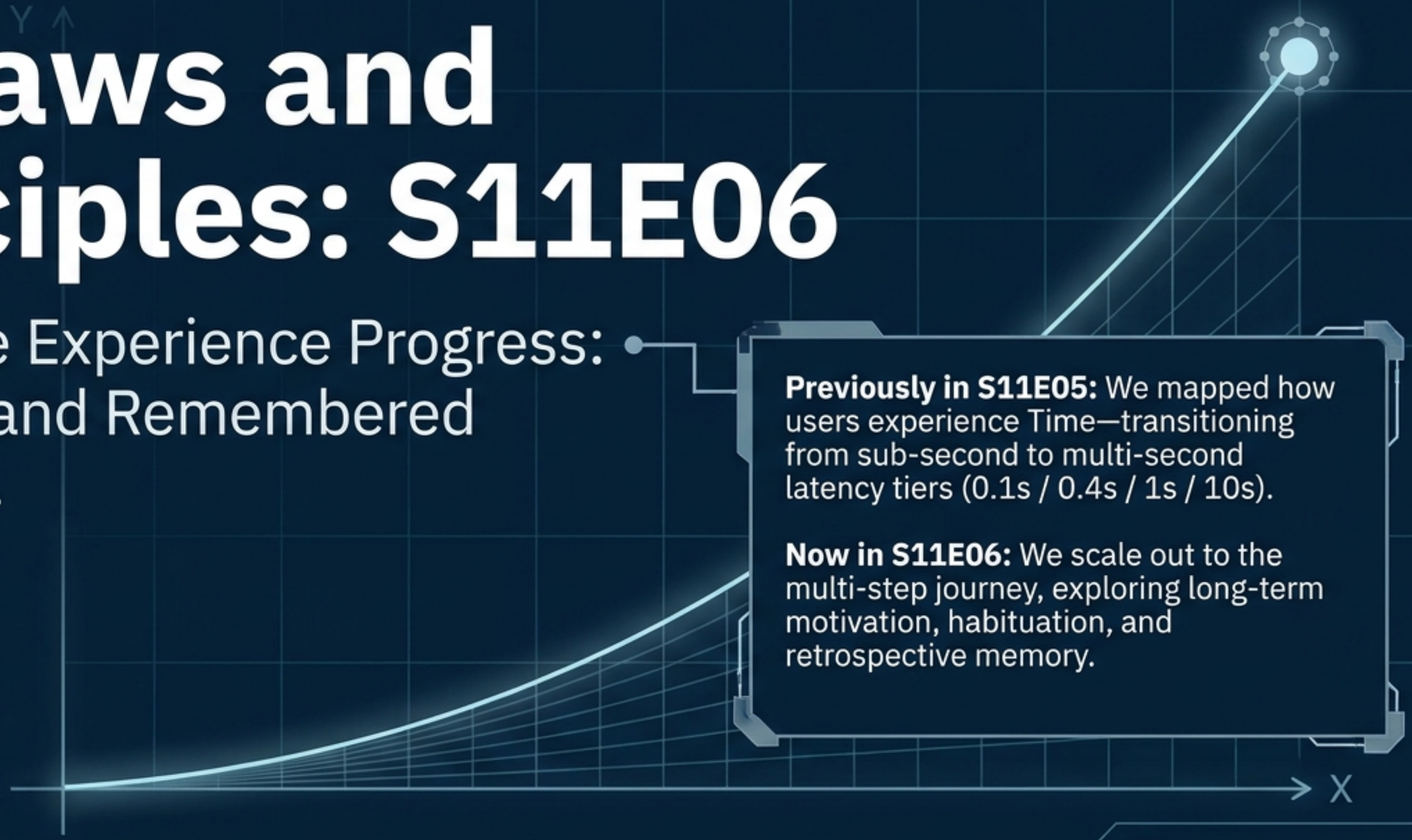
UX Laws and Principles: S11E06

How People Experience Progress: Motivation and Remembered Experience.



Previously in S11E05: We mapped how users experience Time—transitioning from sub-second to multi-second latency tiers (0.1s / 0.4s / 1s / 10s).

Now in S11E06: We scale out to the multi-step journey, exploring long-term motivation, habituation, and retrospective memory.

Reference Manual v1.0 | Product & Engineering

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Empirical Behavioral & Memory Effects (The ‘What’)

Goal-Gradient Effect: Effort accelerates as the finish line nears.

Endowed Progress Effect: Artificial head-starts drive completion.

Peak–End Rule: Memories are snapshots of the most intense moment + the finale.

Overjustification Effect: Extrinsic rewards kill intrinsic drive.

Negativity Dominance: Bad events psychologically outweigh good ones.

Psychological Framework (The ‘Why’)

Deci & Ryan’s Self-Determination Theory (SDT) (1985)

Autonomy:
The need to control one's own choices and behaviors.

Competence:
The need for mastery and effective functioning.

Relatedness:
The need for connection and belonging.

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The Systems Adage

Goodhart's Law (Charles Goodhart, 1975)

"When a measure becomes a target, it ceases to be a good measure. (Strathern, 1997)

UX Translation:
Arbitrary streaks and gamification metrics ultimately corrupt user behavior. Users start optimizing for the metric (clicking blindly to save a streak) rather than the actual value (learning/fitness).

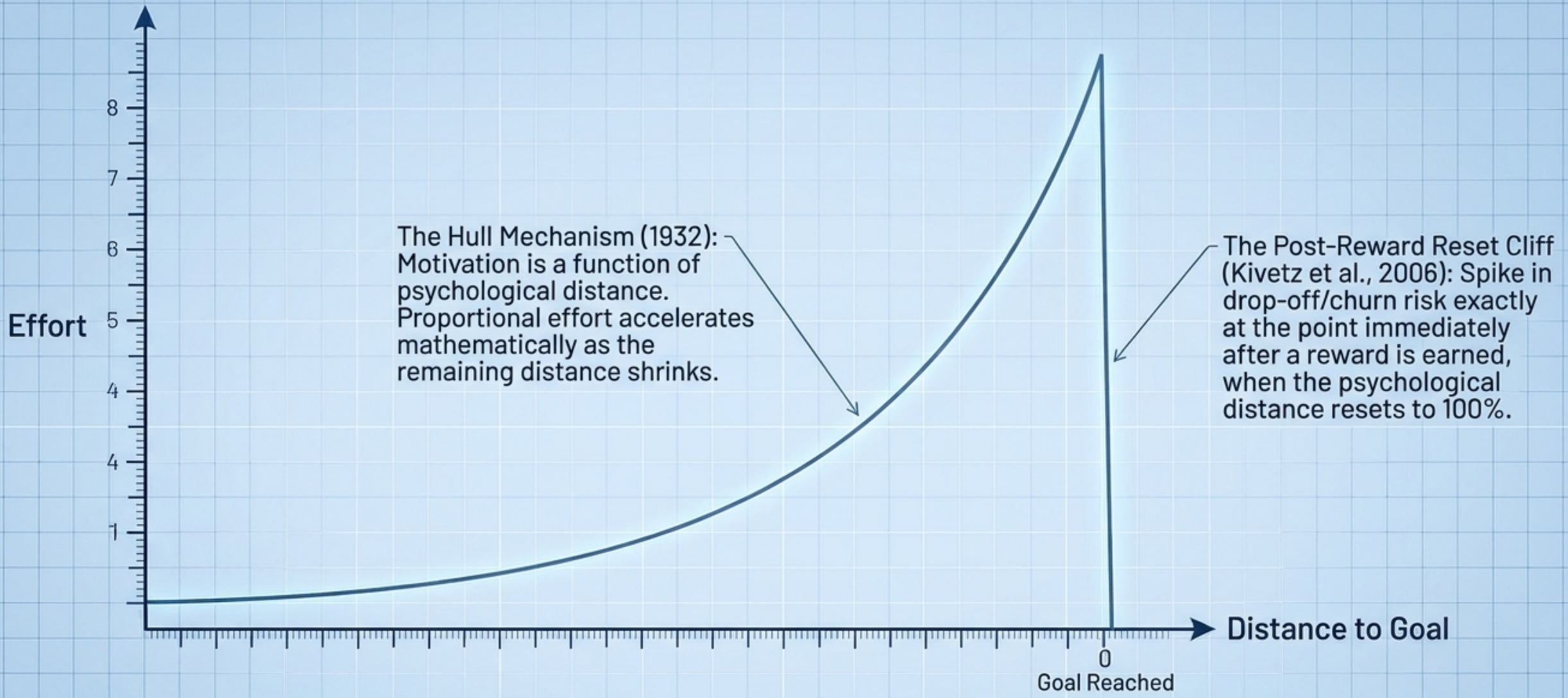
Enforceable Legal Boundaries (The Red Lines)

EU Digital Services Act (DSA) Art. 25: Blanket ban on Dark Patterns. Interfaces cannot materially distort or impair... autonomous and informed choices.

FTC Enforcement: Strict mandates against deceptive click-to-cancel obstruction (e.g., recent lawsuits against 6-screen exit traps) and forced continuity.

WCAG 2.2 / W3C COGA: Mandates for cognitive accessibility, predictable navigation, and mandatory motion-trigger fallbacks.

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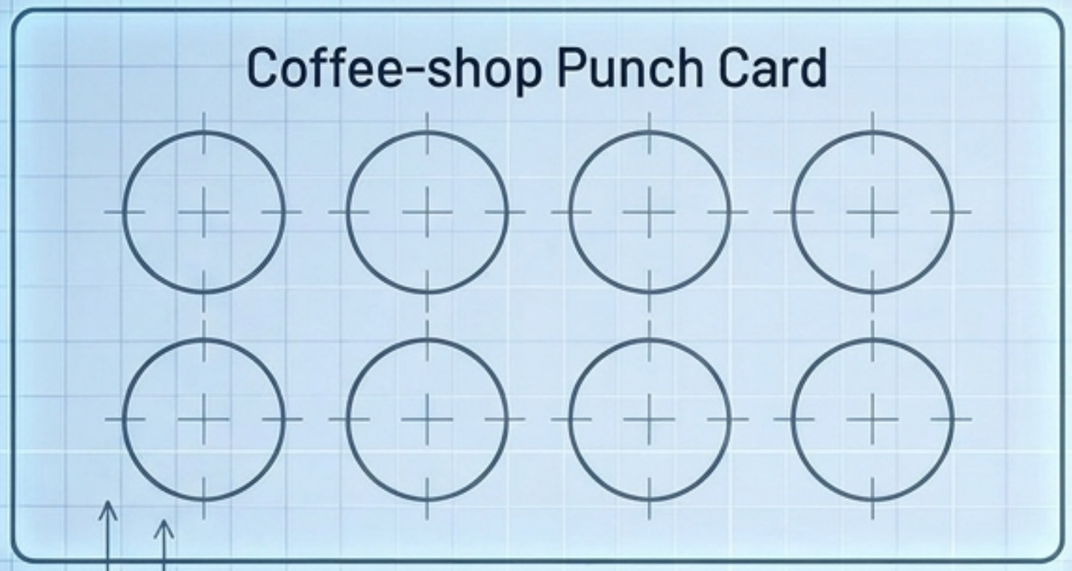


Engineering Takeaway: Never leave a user at 0% on the next stage. Bridge the reset cliff with immediate partial credit for the next tier.

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Card A (Control)

0/8 Completed



8 identical remaining steps.

Result: 19% completion rate.

Card B (Endowed)

2/10 Completed



8 identical remaining steps.

Result: 34% completion rate.

Mechanism: The Illusionary Progress Effect
Framing a task as already underway shrinks the proportional remaining distance (*dt*).

Boundary Condition: The Plausibility Condition
Why arbitrary 40% done! profile bars fail. Endowment only works if the initial credit feels earned, legitimate, and plausible (e.g., *Account created: +2 points*).

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EXTRINSIC / BRITTLE
(GOODHART'S LAW & OVERJUSTIFICATION)

TACTICS:

- Coercive points, mandatory leaderboards, daily loss-aversion streaks.

THE RESULT:

- Breaks the Fogg Behavior Model when motivation naturally dips.
- Turns learning into 11:59 p.m. trivial-card clicking.
- Triggers permanent churn after one missed day due to streak-wipe shame.

INTRINSIC / SDT-ALIGNED
(AUTONOMY, COMPETENCE, RELATEDNESS)

TACTICS:

- Meaningful skill trees, portfolio competence peaks, flexible weekly targets.

THE RESULT:

- Deep, sustainable engagement.
- Highly resilient to missed days.
- Ensures the product metric remains aligned with the actual user goal.

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The Problem: Streaks driven by loss-aversion create a razor-thin line between habit and compulsion. A hard reset to zero destroys the user's investment.

User misses a day.

The Solution: The Streak Freeze

Punitive tone:
You lost your streak. Start over.

Permanent Churn
(Competence Destroyed)

System applies intentional or retroactive pause via a Grace Mechanism.

Encouraging tone:
You showed up for 42 days straight!

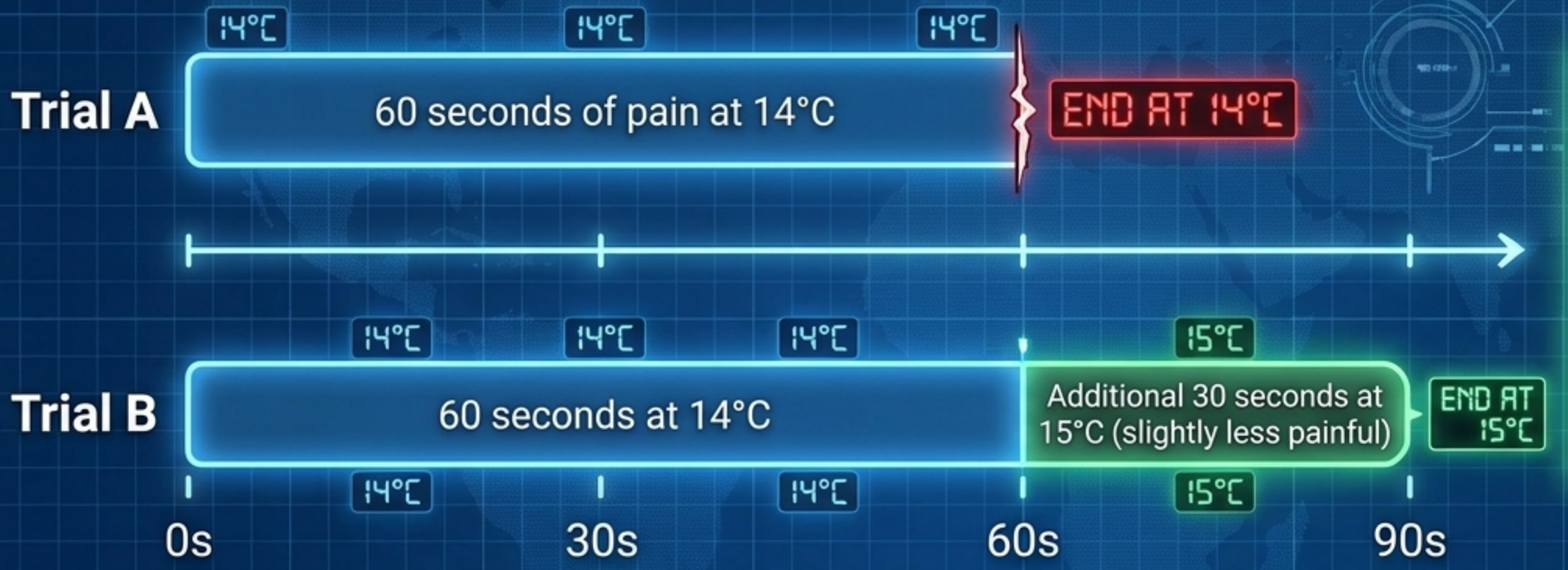
User Retention

Psychological Result: Protects SDT's Competence and Autonomy by allowing imperfection without catastrophic penalty.

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The Peak-End Rule

(Kahneman & Fredrickson, 1993)



The Result:

Users overwhelmingly choose to repeat Trial B, despite it containing strictly more total pain over a longer duration.

The UX Principle (The Peak-End Rule):
Memories are not an objective sum of duration. They are representational snapshots averaged entirely from the **Peak** (most intense affective moment) and the End (the final moment).

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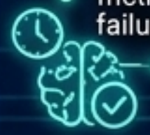
The Applicability of Duration Neglect

(Bounded vs. Continuous Use)

Where Duration Neglect Holds

Context: Bounded retrospective episodes (e.g., an onboarding flow, checkout, customer support call).

Result: The actual length (duration) of the process is forgotten. Only the friction peaks and the final success/ failure state are remembered.

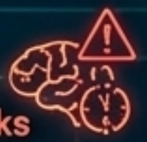




Where Duration Neglect Breaks

Context: High-frequency daily work tools (e.g., enterprise software used 8 hours/day).

Result: Constant friction causes continuous, active pain. Duration neglect does not apply to systemic latency or repetitive sluggishness.





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The Principle (Negativity Dominance):
Bad is inherently stronger than good. The psychological impact of a negative peak heavily outweighs a positive peak of equal objective magnitude.

The UX Math:

- Eliminating acute pain peaks (data loss, hidden fees, humiliating error validation) provides 3–5× higher leverage for user satisfaction than adding decorative animations.

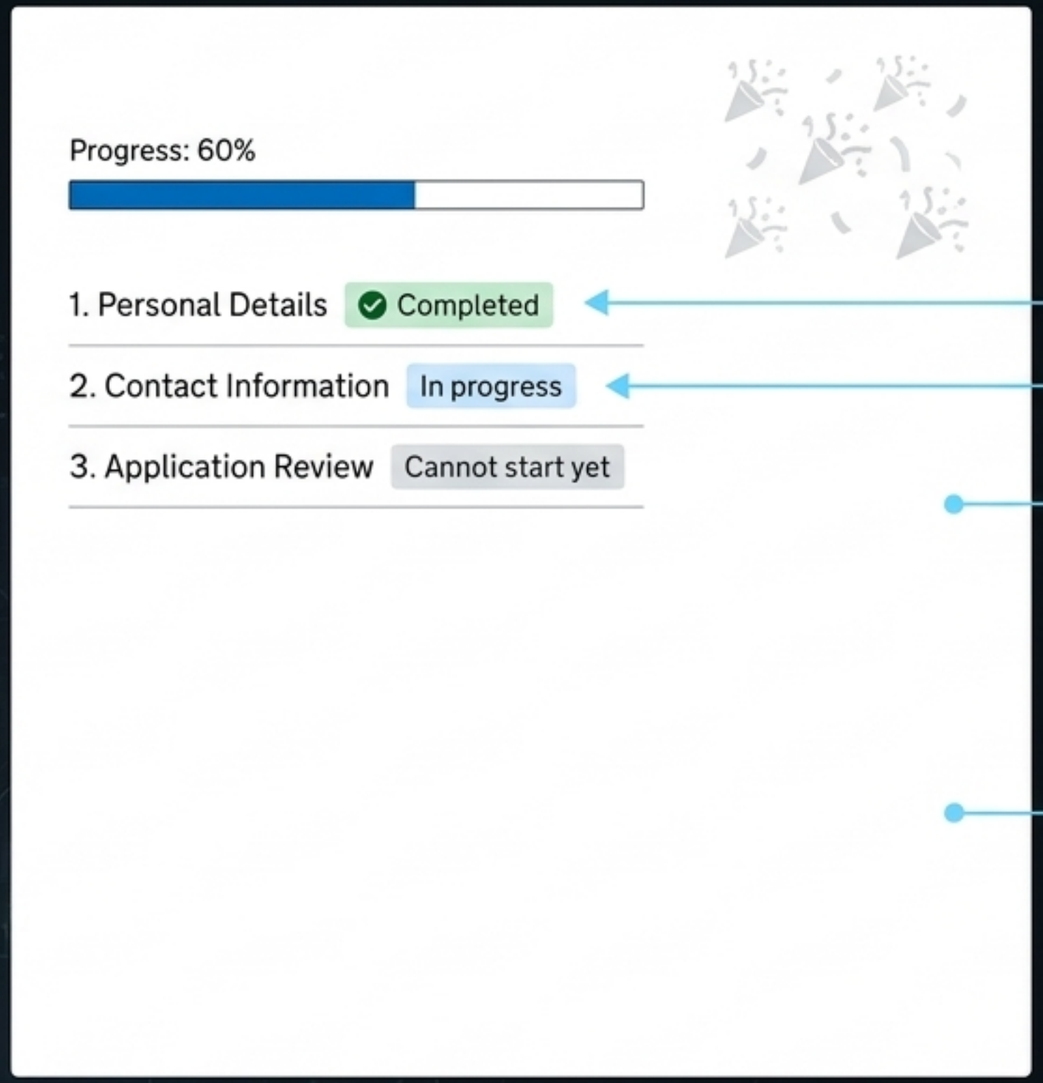
- A single unhandled exception creates a negative peak that erases the goodwill of a dozen micro-interactions.



Engineering Directive: Fix the -5 before you build the +1.

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Accessible Multi-Step Architecture



Semantic Structure: Use <ol> for multi-step task lists to provide inherent numbering and total step counts to screen readers.

```
<ol>
    <li>
      <span>Personal Details</span>
      <span>Completed</span>
    </li>
    <li>
      <span>Contact Information</span>
      <span>In progress</span>
    </li>
    <li>
      <span>Application Review</span>
      <span>Cannot start yet</span>
    </li>
</ol>
```

Explicit Status Badges: Use explicit text nodes (Completed / In progress). Do not rely solely on icons or color to convey status.

```
<span class="govuk-tag govuk-tag—green">Completed</span>
<!— Screen reader will announce "Completed" —>

<span class="govuk-tag govuk-tag—blue">In progress</span>
<!— Screen reader will announce "In progress" —>
```

Progress Indication: Utilize native HTML <progress> elements or correctly mapped aria-valuenow / aria-valuemax attributes.

```
<progress max="100" value="60">60%</progress>

<!— OR ARIA approach —>
<div role="progressbar" aria-valuenow="60" aria-valuemax="100"
aria-label="Application Progress"></div>
```

Celebration Fallbacks: Wrap all gamification/confetti in @media (prefers-reduced-motion: reduce) to prevent triggering vestibular disorders.

```
.confetti-animation {
   /* Default animation styling */
   animation: fall 2s infinite;
}

@media (prefers-reduced-motion: reduce) {
   .confetti-animation {
     /* Disable animation for users who prefer reduced motion */
     animation: none;
     opacity: 0; /* Or hide completely */
   }
}
```

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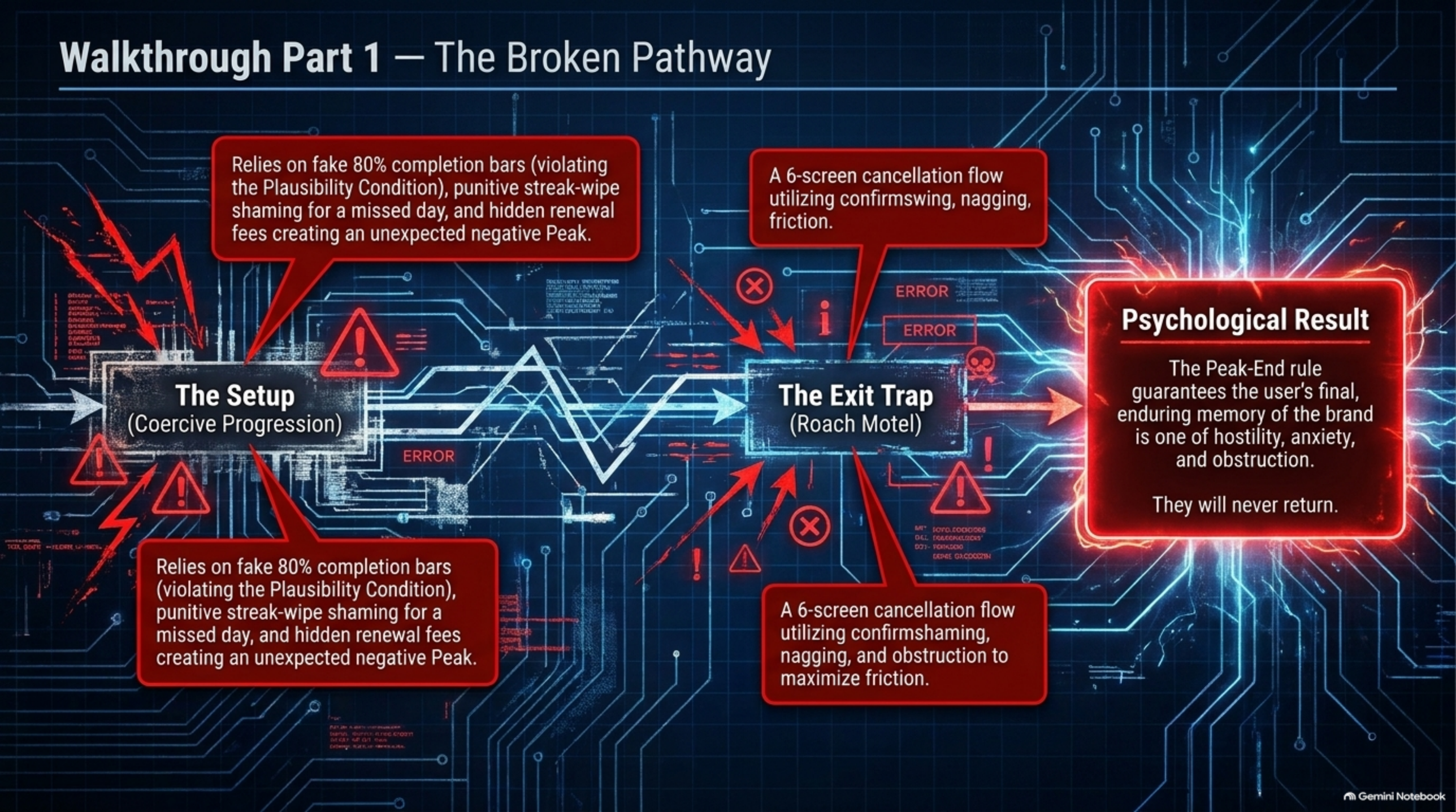
THE DARK-PATTERN BAN LIST MATRIX

CONFIRMSHAMING	**Exploit:** Emotionally manipulative opt-out copy (No thanks, I hate saving money).	**Status: Banned** (Deceptive Design taxonomy). BANNED
FAKE SCARCITY	**Exploit:** Artificial countdown timers or false inventory limits inducing panic.	**Status: Banned.** BANNED
NAGGING	**Exploit:** Repeatedly interrupting users to prompt a choice they already declined.	**Status: Banned** (DSA Art. 25 - impairing autonomous choice). BANNED
FORCED CONTINUITY & ROACH MOTELS	**Exploit:** Making cancellation vastly harder than signing up (e.g., 6-screen exit trap vs. 1-click buy).	**Status: Banned** (FTC Click-to-Cancel enforcement). BANNED

COMPLIANCE REFERENCE – STRICT ENFORCEMENT REQUIRED

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Walkthrough Part 1 — The Broken Pathway



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Walkthrough Part 2 — The Repaired Pathway

Utilizes legitimate account-step endowment (Endowed Progress), semantic Task List architecture, and Streak Freezes (protecting Competence and Autonomy).

The Setup
(SDT-Aligned)

Features proactive 7-day billing reminders and a frictionless 1-click offboarding process that explicitly preserves the user's earned data and certificates.

The Exit
(Graceful End)

Psychological Result

By designing an empowering, frictionless End and a positive skill-summary Peak, the brand secures a highly positive Remembering Self, leaving the door wide open for future reactivation.

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The Accessibility **Modality** Stress-Test

Desktop Pointer

Large click targets (>44px), clear and persistent hover/focus states for all progress nodes.

Mobile Thumb

Bottom-sheet friendly task lists; reachable primary actions within the natural thumb-arc.

Keyboard/Switch

Logical tab order strictly matching the visual <ol> sequence; highly visible focus rings.

400% Zoom (320 CSS px)

Linear reflow without horizontal scrolling; text-based status badges remain fully readable.

Screen Reader

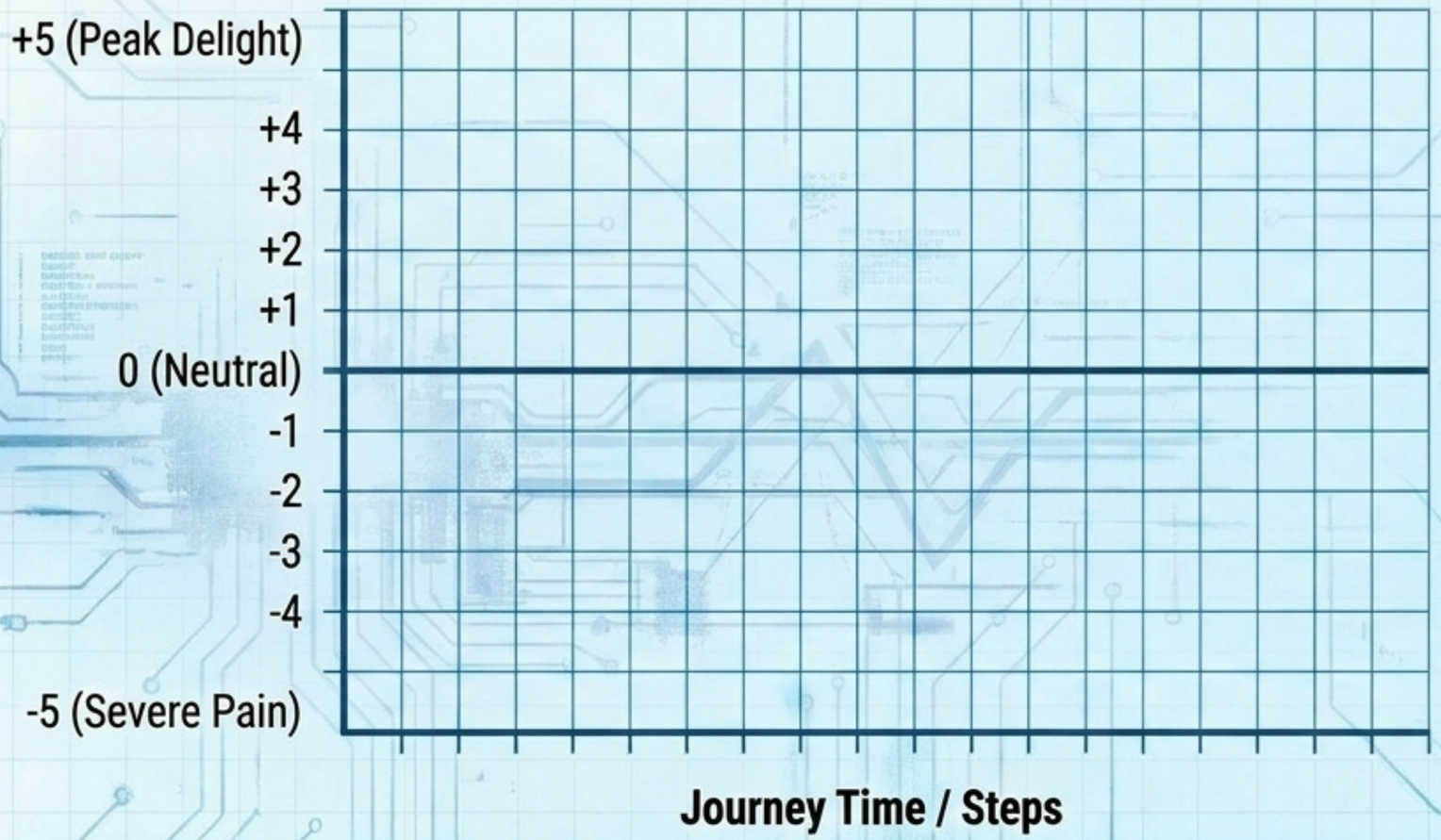
Verbatim output reads exactly: Step 2 of 4: Billing, In Progress via native HTML semantics.

W3C COGA (Cognitive)

Minimized cognitive load. The UI requires zero working memory to recall previous steps, actively supporting users with cognitive disabilities.

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The **Valence Timeline** Audit Template



Step-by-Step Exercise Instructions:

1. Map every touchpoint of your multi-step journey sequentially on the X-axis.
2. Plot the Experiencing Self valence for each moment on the -5 to +5 scale.
3. Identify the lowest trough (The Negative Peak).
4. Identify the final touchpoint (The End).

Audit Action: Average the Peak and the End to find your product's **Remembering Self score**. Prioritize all engineering resources entirely on neutralizing the lowest negative peak before attempting to elevate a positive one.

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Engineering Release Checklist (S11E06 Reference Card)

- [ ] **Plausible Endowment:** Does initial progress feel legitimate and earned, avoiding fake 80% complete bars?
- [ ] **Grace Mechanisms:** Is there a freeze/pause state for daily streaks to prevent catastrophic user churn?
- [ ] **Pain Eradication:** Have we prioritized fixing negative friction peaks (-5) over adding decorative animations (+1)?
- [ ] **Semantic Structure:** Are all multi-step task lists using <ol> and native <progress> indicators?
- [ ] **Motion Fallbacks:** Are all gamification celebrations wrapped in @media (prefers-reduced-motion: reduce)?
- [ ] **Click-to-Cancel:** Is the offboarding process as frictionless and autonomous as the onboarding process, complying with DSA/FTC mandates?

Gemini Notebook

Next Episode — Season Finale S11E07

Applying the Principles Together: Complexity, Flexibility, and Trade-Offs.

Preview: We've mapped cognitive load, time perception, and progress motivation. In our finale, we synthesize these isolated laws into a unified product strategy.

The Challenge: We will tackle the real-world engineering trade-offs: what happens when flexibility inevitably introduces complexity, and how to balance competing UX laws when they directly contradict one another in production environments.

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