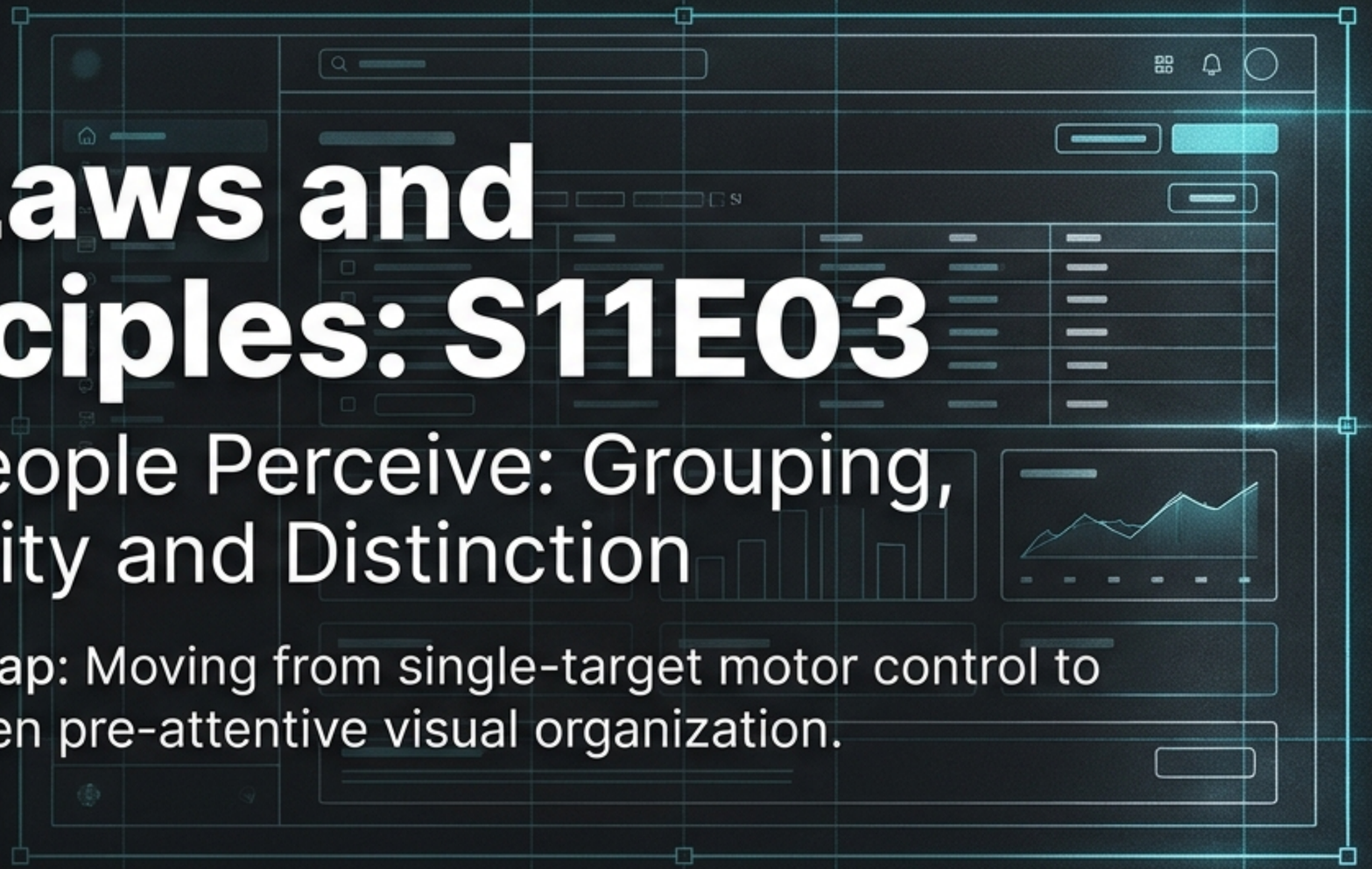


UX Laws and Principles: S11E03

How People Perceive: Grouping, Simplicity and Distinction

S11E02 Recap: Moving from single-target motor control to whole-screen pre-attentive visual organization.

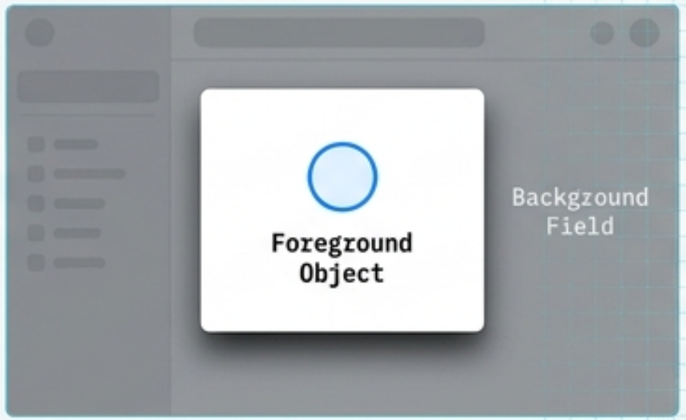
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The Gestalt Epistemology

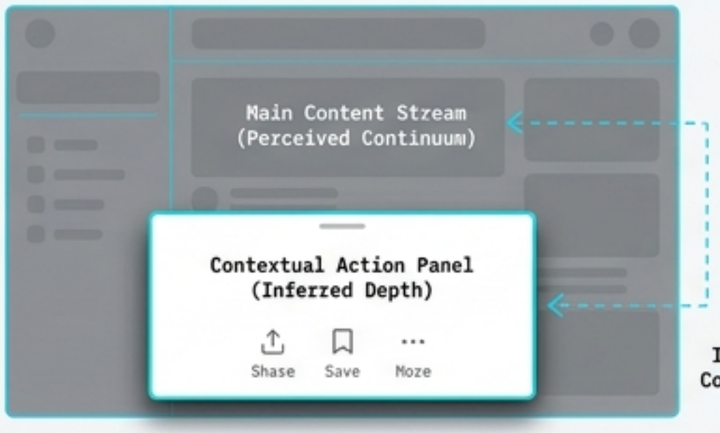
Qualitative Gestalt (1912)

Descriptive Perceptual Tendencies (Never fake equations).
Founders: Wertheimer, Koffka, Köhler.

Figure-Ground Segregation (Elevation)



Reification



Implicit Connection

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Bounded Empirical

Measurable, verifiable cognitive phenomena.



- **Von Restorff Isolation Effect**

Items that stand out from their surroundings (e.g., unique color, size) are more likely to be remembered.

Measured through recall tasks and attention tracking.



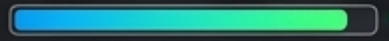


- **Aesthetic-Usability Effect**

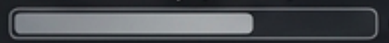
Users perceive more aesthetically pleasing designs as being more usable, regardless of actual functionality.

Measured via usability testing and subjective rating scales.

Perceived Usability (High Aesthetic)



Actual Usability (Control)





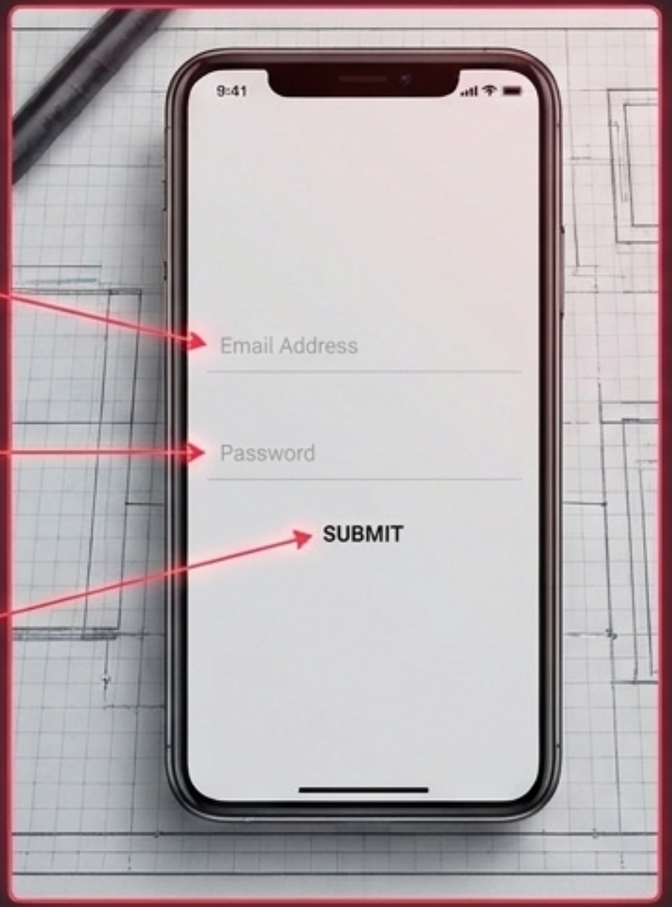
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The Law of Prägnanz: Clarity ≠ Erasure

Prägnanz is the pursuit of structural disambiguation and cognitive ease—not the minimalist erasure of borders and affordances.

THE MYTH: MINIMALIST ERASURE



Invisible touch targets

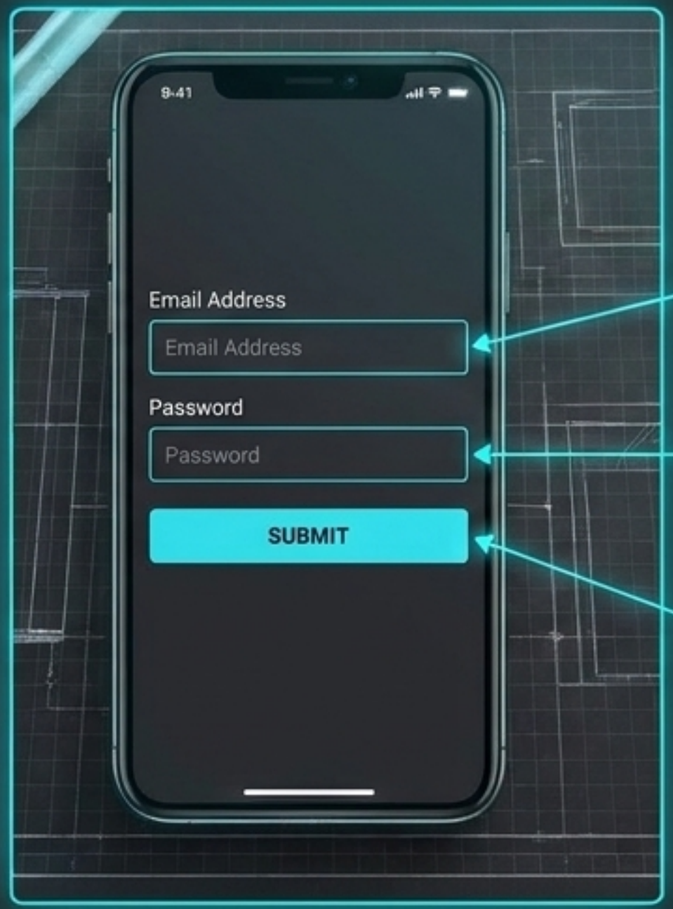
Missing context

High cognitive load

Technical Specification Sheet // v1.2

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THE REALITY: STRUCTURAL DISAMBIGUATION



Structural disambiguation

Explicit affordance boundaries

Symmetrical order

Technical Specification Sheet // v1.3

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Classical Grouping & Modern UI Traps

ui_affordance:static_pills

Similarity

Pending | Active | Draft | Submit

The false-affordance trap: static pills mimic interactive buttons.

ui_scroll:partial_peek

Closure



Partial peek cards signal horizontal scroll inherently.

ui_flow:vertical_axis

Continuity

Name:

Email:

Password:

Submit

Alignment axes implicitly guide the eye down the flow.

Common Fate

Settings

Profile

Notifications

Advanced

Item 1

Item 2

Item 3

Coordinated motion binds parent and child elements.

prefers-reduced-motion: reduce

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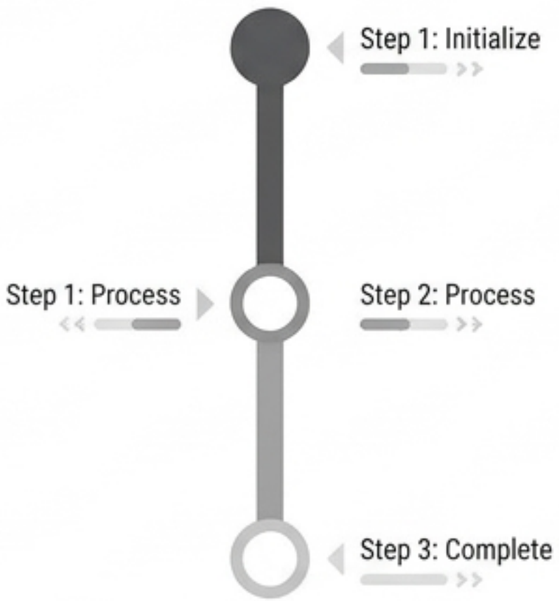
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Modern Grouping: Containers & Connections

Elements sharing a clearly defined boundary or physical connection are perceived as grouped, regardless of their individual characteristics.

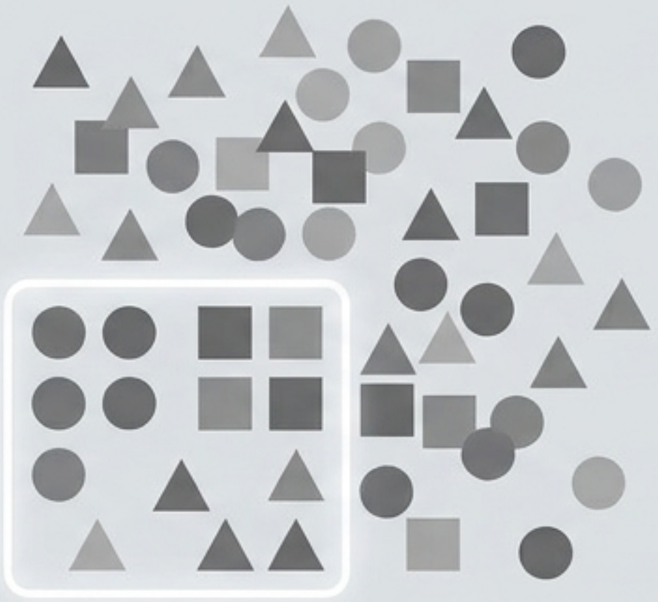
Uniform Connectedness

Palmer & Rock (1994)



Common Region

Stephen Palmer (1992)

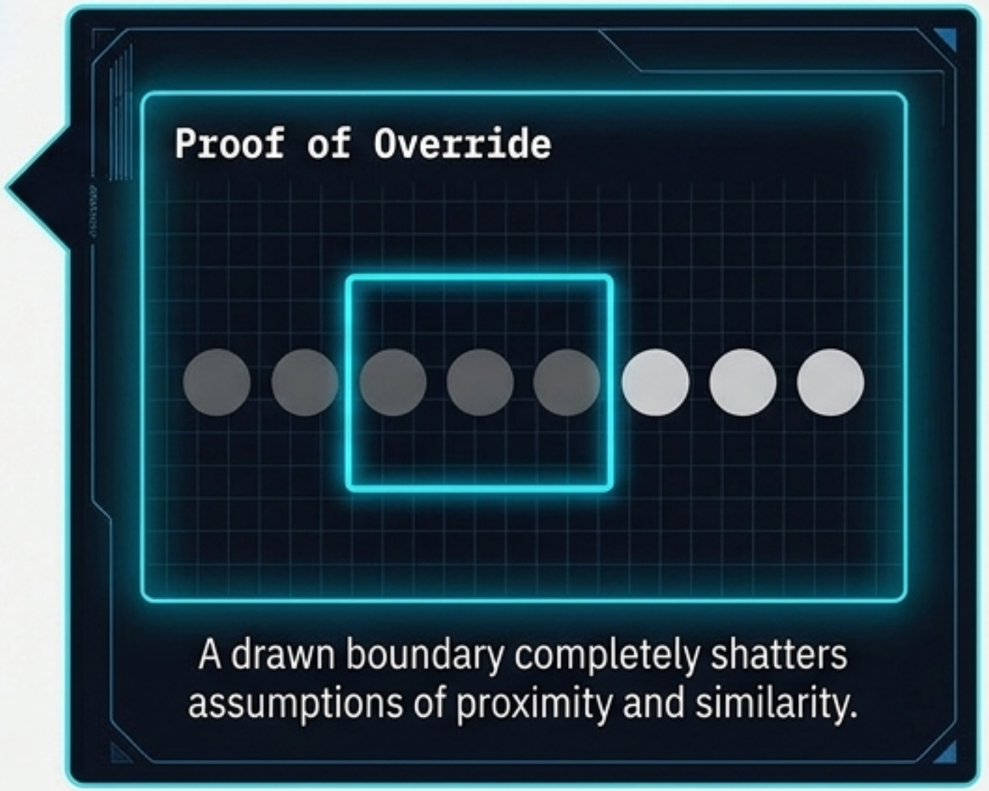


Clearly defined boundary instantly unifies a subset.

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The Perceptual Dominance Hierarchy

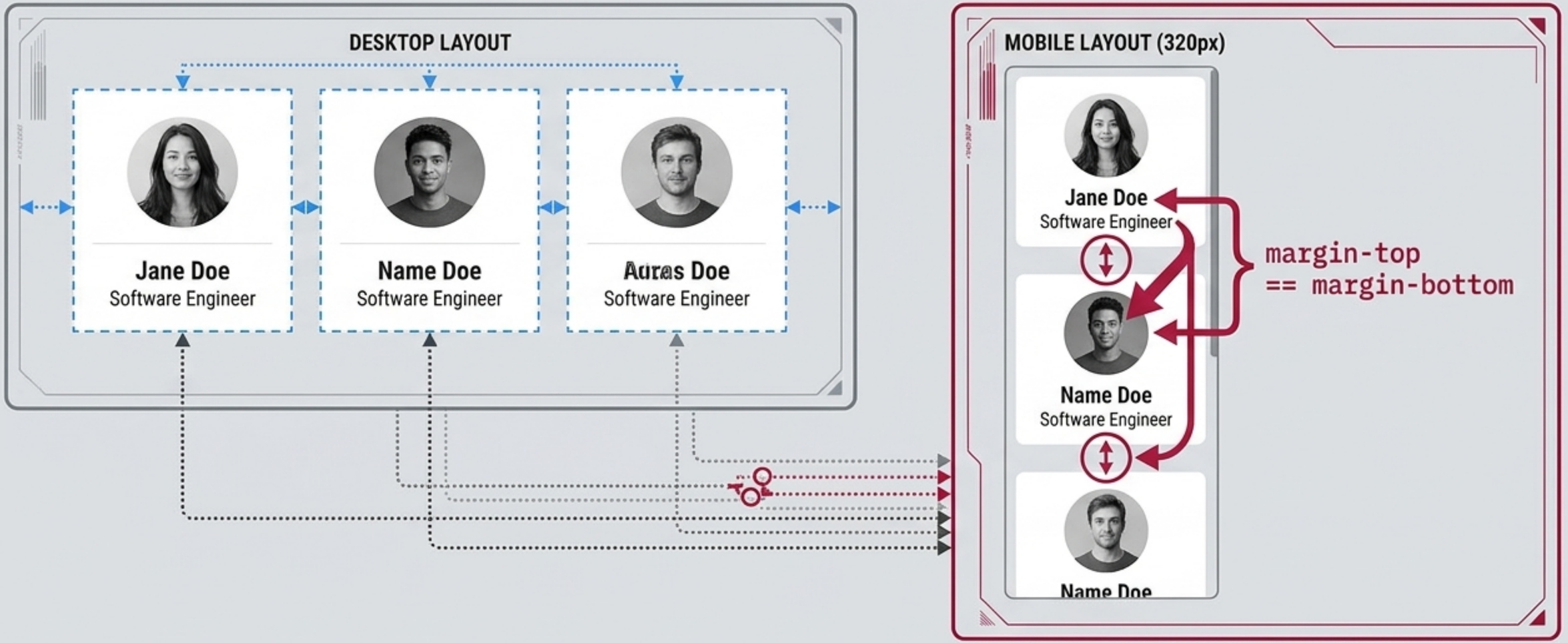




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The Reflow Collapse (WCAG 1.4.10)

Equidistant vertical stacks destroy visual hierarchy. Without specific spacing tokens, 320px CSS reflow creates total ambiguity.



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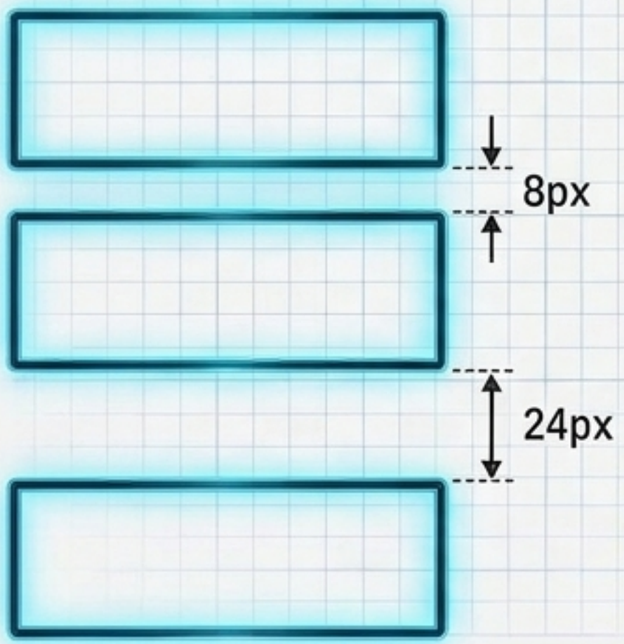
Spacing Tokens & The 400% Viewport

THE MATH

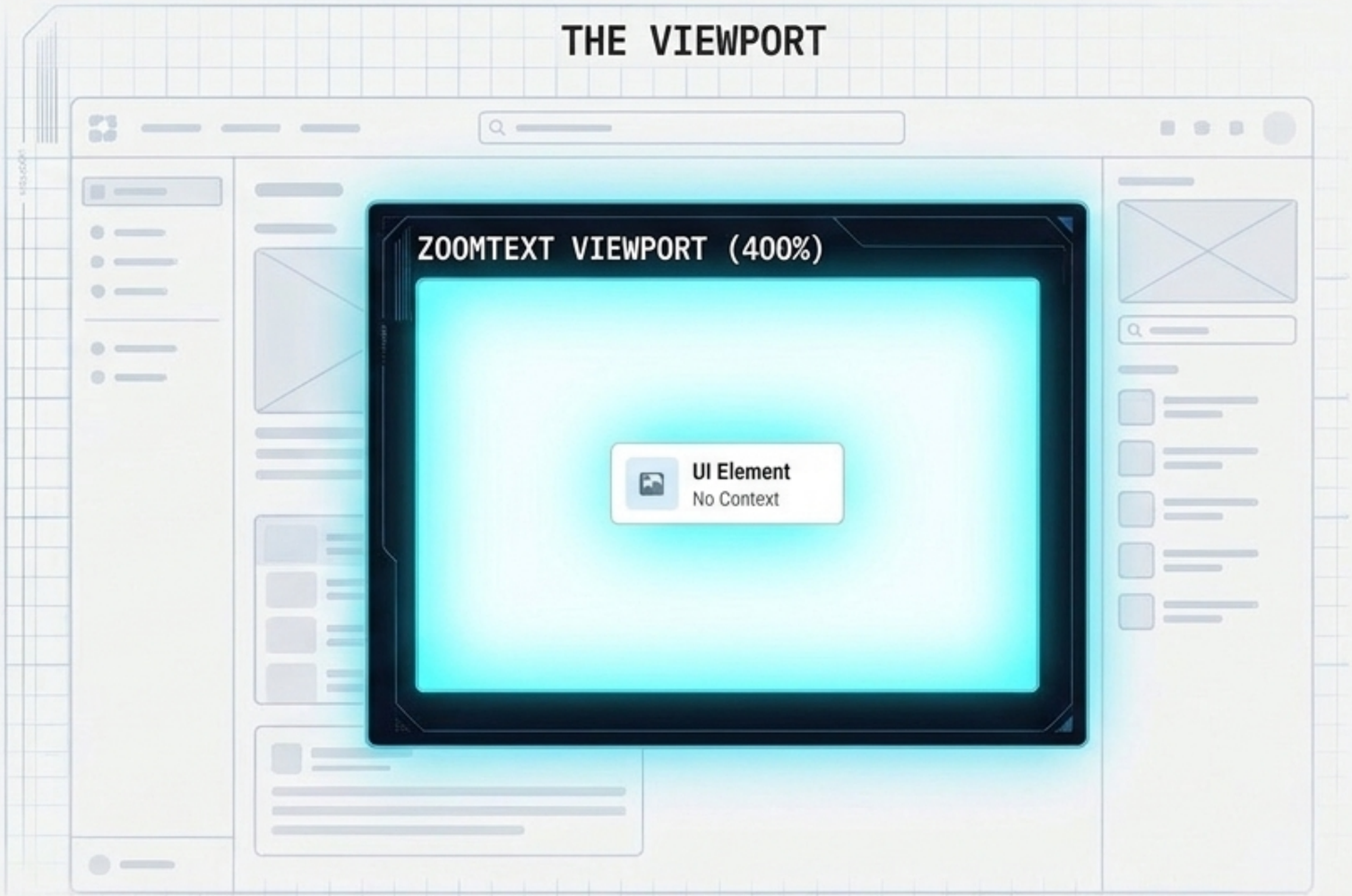
DESIGN SYSTEM SPACING RULES:

TARGET RATIO <= 1:2

IDEAL RATIO = 1:3



THE VIEWPORT



Wide desktop whitespace splits the UI apart in a zoomed window unless anchored by explicit Common Region boundaries.

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Salience Collapse & Banner Blindness

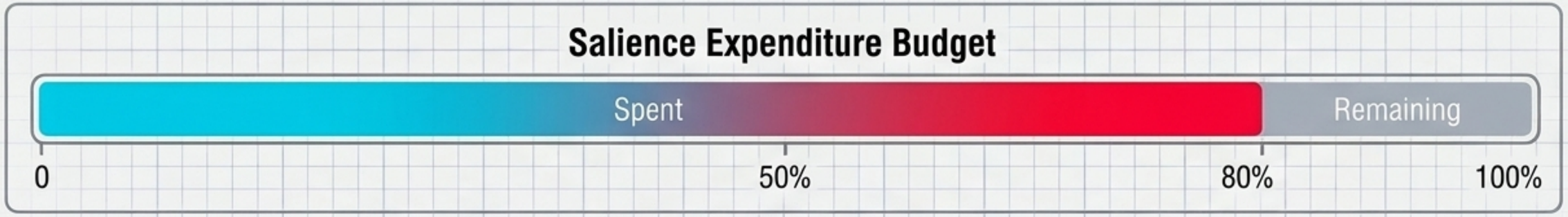
Hedwig von Restorff's isolation paradigm (1933) dictates that distinctive items are remembered. However, saturating an interface with high-salience elements causes a total collapse—users adopt defense mechanisms and ignore ad-like visual treatments completely.

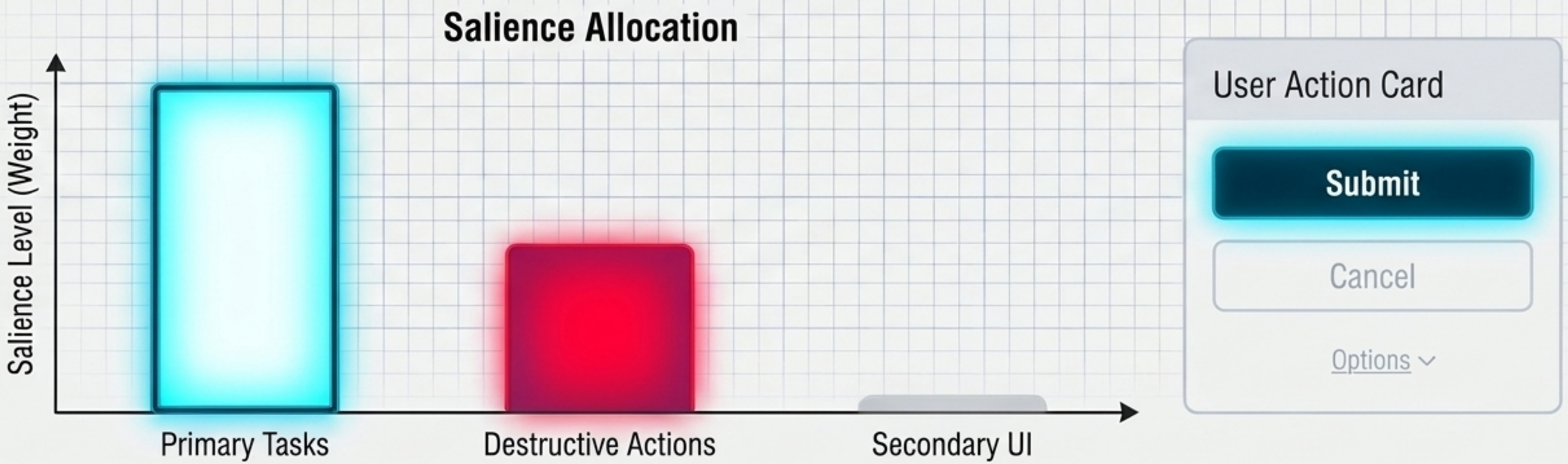


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Visual Hierarchy Discipline & Budgets

Treat visual weight as a finite currency. High-contrast distinction must be allocated exclusively to primary and destructive actions. Mute secondary UI to preserve the isolation effect.



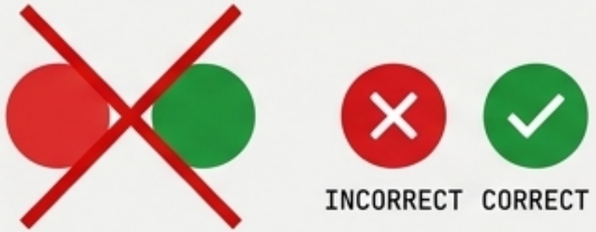


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The WCAG Contrast Cards

WCAG 1.4.1
Use of Color

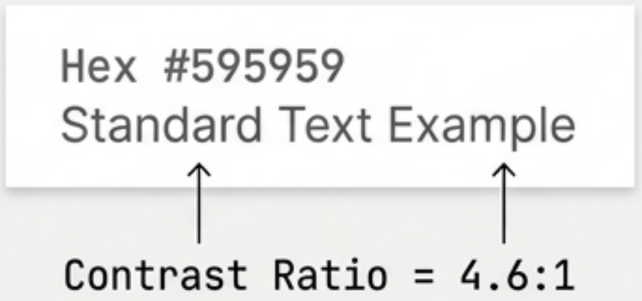
Never use hue-only distinctions for status, errors, or plan selection.



Status: Hue + Icon

WCAG 1.4.3
Text Contrast

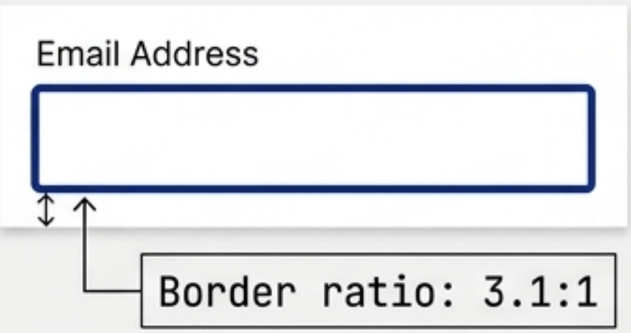
>= 4.5:1 standard text / 3:1 large text.



Passes WCAG AA

WCAG 1.4.11
Non-text Contrast

>= 3:1 for card boundaries, input borders, and focus/active states.

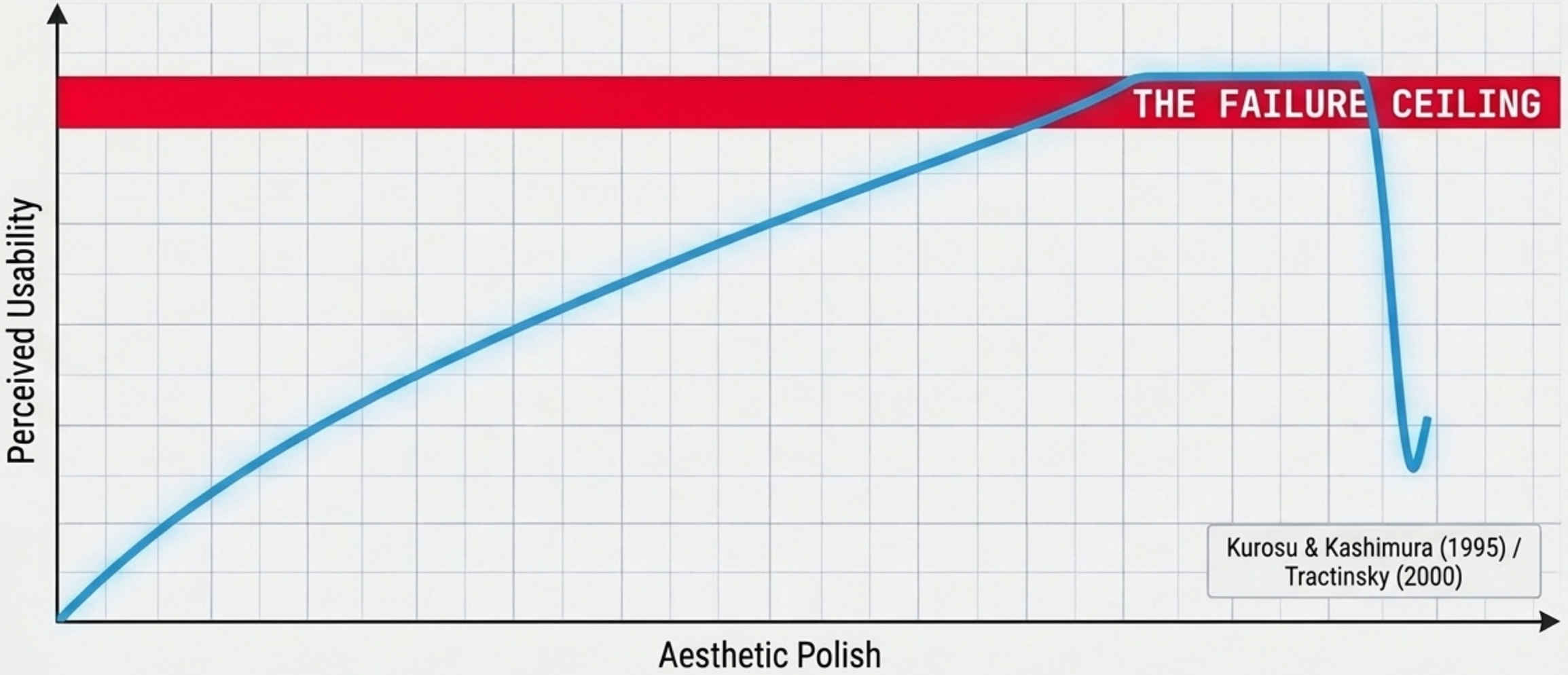


Passes WCAG AA

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Empirical Reach & The Failure Ceiling

Beautiful interfaces inflate apparent usability, but they hit a hard failure ceiling when users encounter severe functional blockers. Aesthetics cannot mask a broken workflow.



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Research Bias & The 50ms Visceral Halo

Researchers must measure rigorous behavioral task completion rather than relying on verbal praise when testing sleek, high-fidelity prototypes.



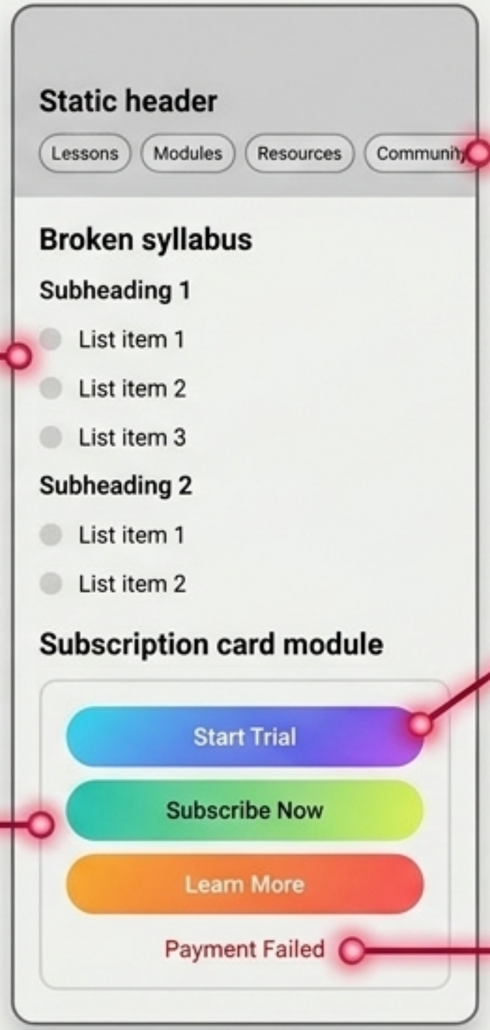
Split-second aesthetic approval buffers minor friction and artificially inflates post-task System Usability Scale (SUS) scores.

0ms — 50ms: The Visceral Aesthetic Halo (Lindgaard et al., 2006)

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Multi-Modal Walkthrough: The Broken Pathway

High-fidelity UI module is a broken mobile syllabus & subscription card module.



Similarity false-affordance
(static pills mimic buttons).

No Proximity
(equidistant vertical stack).

Salience collapse
(3 competing gradient CTAs).

Fails WCAG 1.4.11
(1.3:1 contrast ghost border).

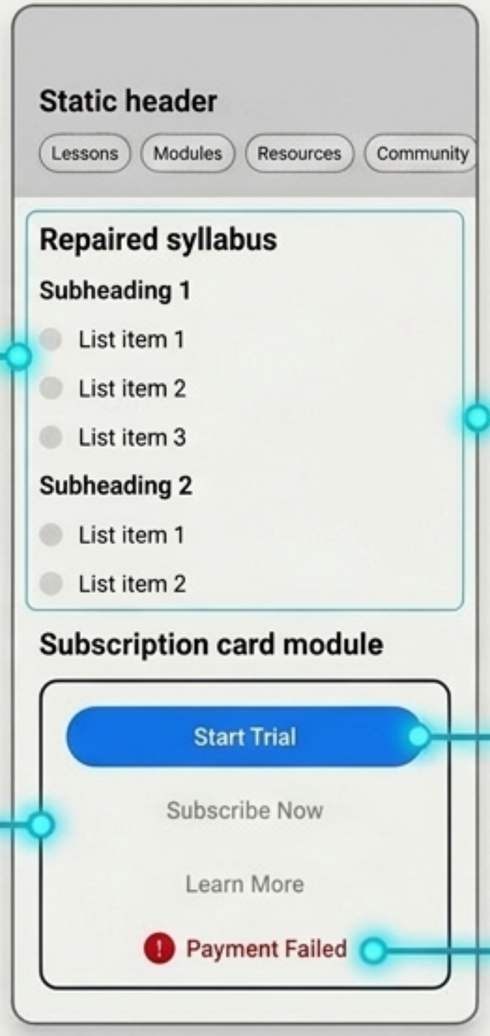
Fails WCAG 1.4.11
(1.3:1 contrast ghost border).

Fails WCAG 1.4.1
(Red-only hue error state).

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Multi-Modal Walkthrough: The Repaired Pathway

High-fidelity UI module shows the repaired mobile syllabus & subscription card module.



Clear Proximity
(Strict 1:3 spacing ratios applied).

Common Region boxes
group content.

Salience budget restored
(Single primary CTA).

Accessible boundaries
(>= 3:1 contrast).

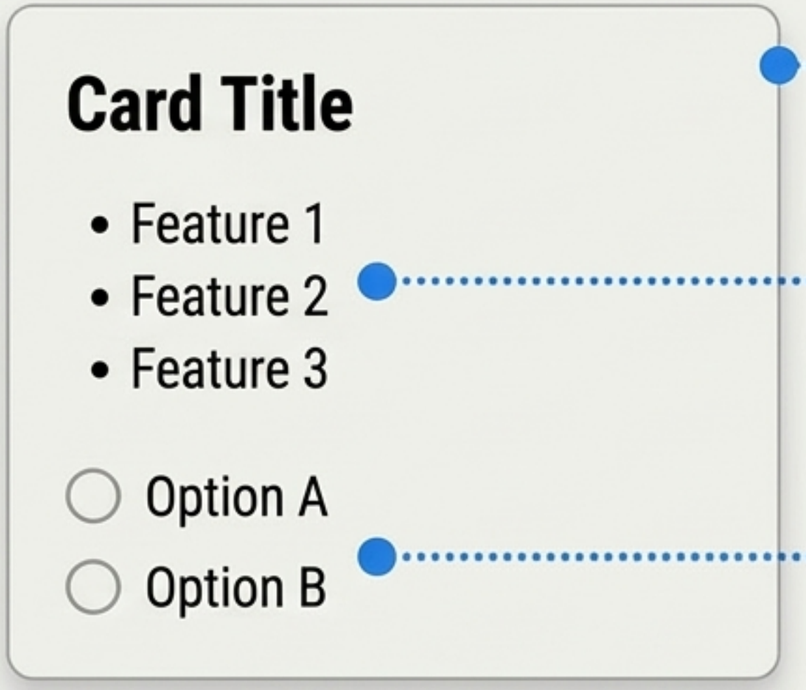
Color-independence
(Icon + hue error state).

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Semantic Gestalt Parity (WCAG 1.3.1)

How we see it must perfectly match how the browser reads it. Sighted visual groupings require Semantic Gestalt parity in the Accessibility Object Model.

Visual Gestalt (UI Card)

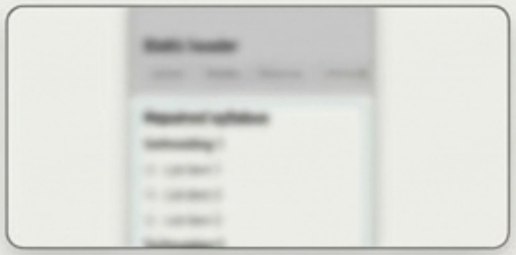


Programmatic AOM (Code Block)

```
<section aria-labelledby="card-title-id">
  <h2 id="card-title-id">Card Title</h2>
  <ul>
    <li>Feature 1</li>
    <li>Feature 2</li>
    <li>Feature 3</li>
  </ul>
  <fieldset>
    <legend>Select an Option</legend>
    <label><input type="radio" name="options"
     value="A"> Option A</label>
    <label><input type="radio" name="options"
     value="B"> Option B</label>
  </fieldset>
</section>
```


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The 4-Part Perceptual & Semantic Stress Test



1. The Squint Test

`filter: blur(4px)`

Checks visual hierarchy and Proximity



2. The Color-Independence Test

`filter: grayscale(1)`

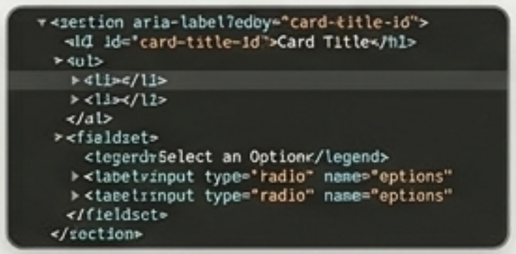
Checks WCAG 1.4.1 and 3:1 borders



3. The Reflow Audit

320 CSS px viewport check

Verifies spacing tokens <= 1:2



4. The Grouping Audit

DevTools Accessibility Tree

Verifies Semantic Gestalt parity

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Perception is only the first layer of the stack. Once users organize what they see, they must construct meaning.



Next Up (S11E04)
How People Understand and Remember:
Familiarity, Cues and Unfinished Tasks.

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