

Intelligence Design Principles

CS-639 Interaction Design Studio · Reference Card Set

WEEK 3 · FOUNDATION

Subordinate Intelligence

1

AI-generated content should be visually subordinate to user-created content. Intelligence enhances but never overshadows what the user brings to the system.

Amershi G8 · Apple HIG

WEEK 3 · FOUNDATION

Efficient Dismissal

2

Users must be able to easily ignore, reject, or override intelligent suggestions. Every AI feature needs a clear, low-effort way to opt out or dismiss.

Horvitz P5/P7 · Amershi G8

WEEK 4 · TRANSPARENCY

Honest Capabilities

3

Make explicit what the system can and cannot do. Set clear expectations about the boundaries of intelligent features to build appropriate trust.

Amershi G1-G2 · PAIR User Needs

WEEK 4 · TRANSPARENCY

Communicate Uncertainty

4

Show when the system is confident versus uncertain. Display confidence levels, alternatives, or acknowledge when the AI might be wrong.

Horvitz P2 · Amershi G10

WEEK 4 · TRANSPARENCY

Predictable Adaptation

5

When interfaces adapt or change, they should follow clear, understandable rules. Users should be able to anticipate how and when adaptation occurs.

Apple HIG · Amershi G14

WEEK 5 · CONTEXT

Respectful Context-Sensing

6

Only sense context that is necessary and appropriate for the task. Every piece of contextual data should have a clear purpose and respect privacy boundaries.

Dey (2001) · Schmidt et al.

WEEK 5 · CONTEXT

Transparent Reasoning

7

Explain why the system did what it did. Make the reasoning visible: which context was sensed, how it was interpreted, and why it triggered this action.

Bellotti & Edwards · Amershi G11

WEEK 5 · CONTEXT

Contextual Relevance

8

Use context to provide timely, appropriate, and helpful information. Intelligent systems should understand situation and deliver what's needed when it's needed.

Dey (2001) · Amershi G3-G7

WEEK 6 · COLLABORATION

User Correctability

9

Provide clear mechanisms for users to teach and correct the system. Learning systems need feedback loops that let users shape the AI's understanding.

PAIR Feedback · Amershi G15

WEEK 6 · COLLABORATION

Smooth Initiative Transitions

10

Design clear patterns for shifting control between user and system. Mixed-initiative interactions need smooth handoffs where both parties understand who's leading.

Horvitz (1999) · Hearst (1999)