

INLAY: Preemptive, In-Context Intelligence for Casual Web Browsing

CHIR'26

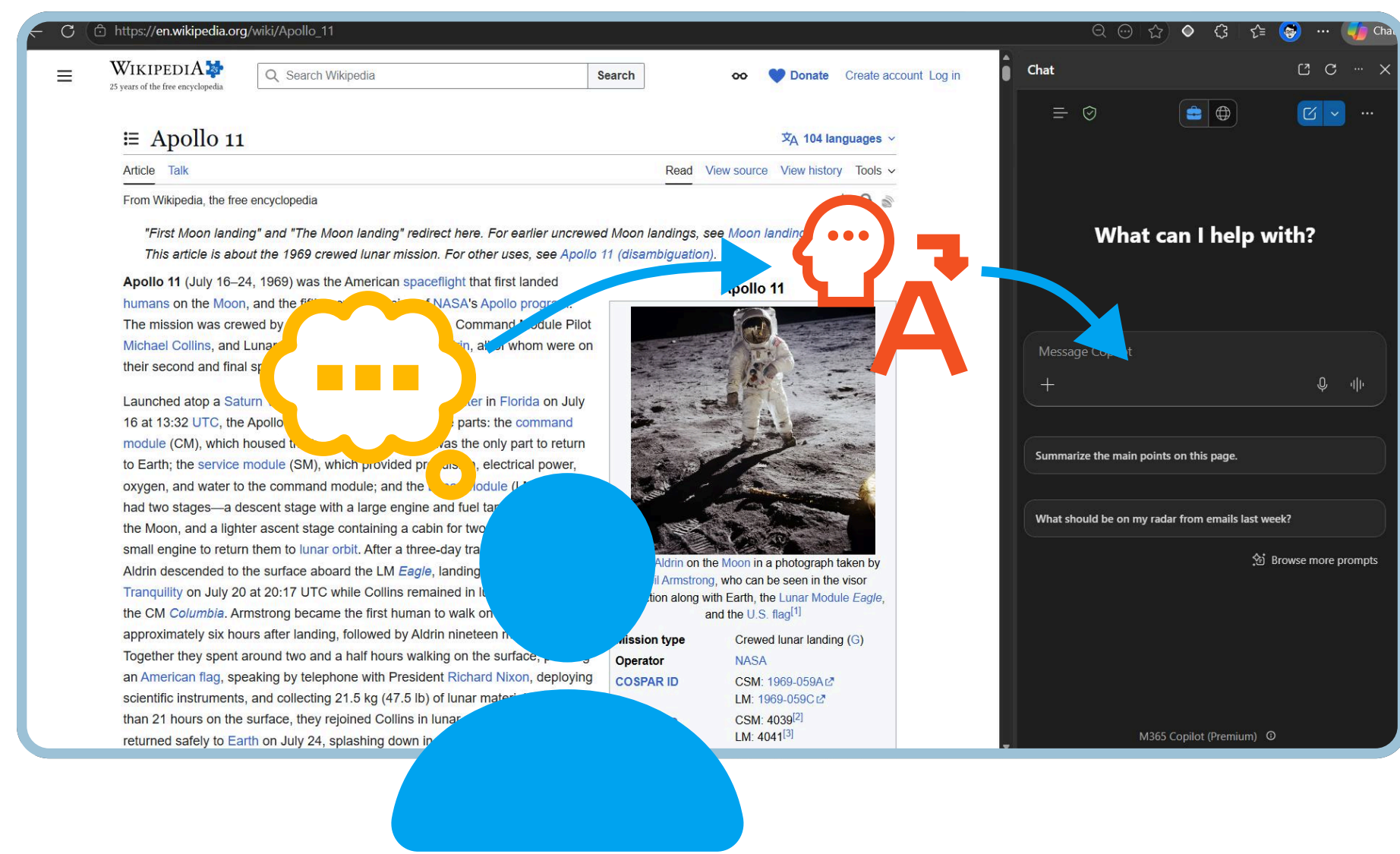
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Status-Quo: ‘AI Sidebar’

Browsers rely on explicit invocation for AI Assistance, typically in a separate UI surface (the ‘sidebar’). Effective for goal-oriented tasks, but doesn’t account for ‘casual browsing,’ i.e. meandering, serendipitous information seeking where intent is implicit or latent.

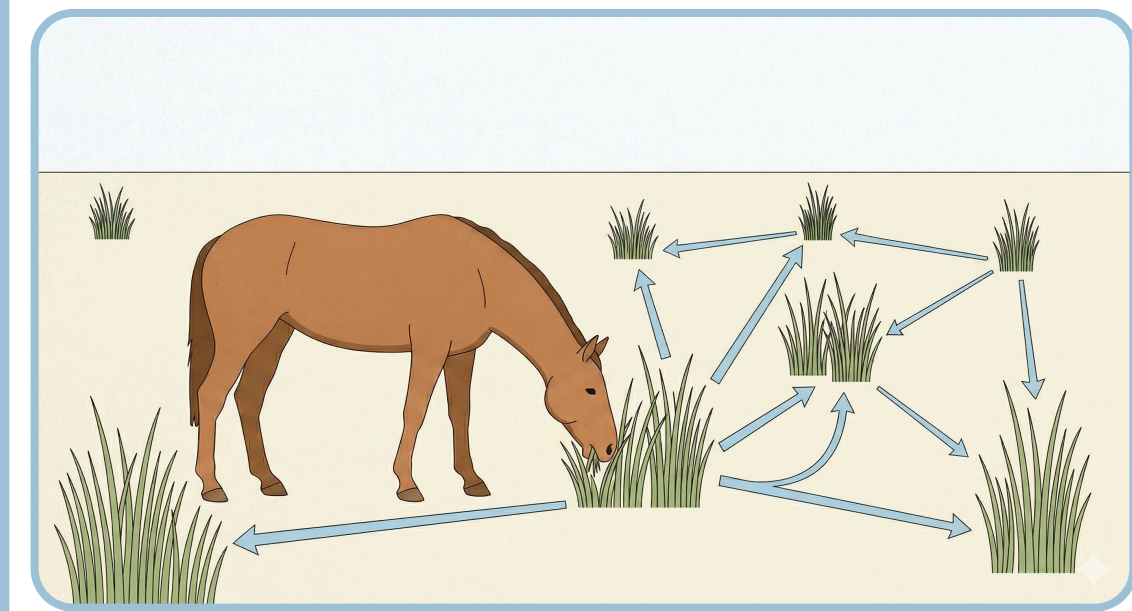
- Initiation Friction (remembering to invoke AI assistance)
- Cognitive Translation Friction (formalizing vague thoughts into a prompt)



Theoretical Grounding

- Information Foraging Theory (IFT) models casual browsing as a cost-reward optimization.
- Users follow ‘information scents’ (cues like headings, links, or images) to decide whether to explore further or exploit the current page.
 - Diminishing returns lead to Premature Satisficing (settling for subpar results to avoid context-switching)

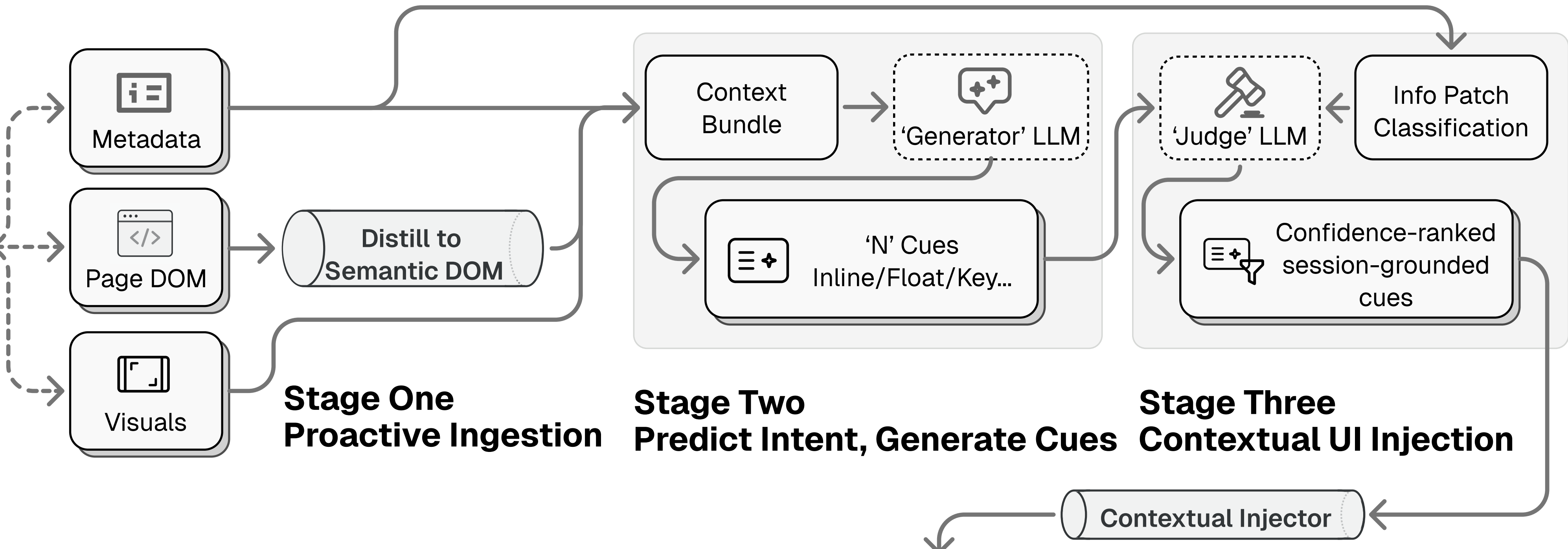
Missed opportunities for deeper engagement and serendipitous discovery.



Inlay: Core Principles and System Architecture

Inlay runs proactively (on page load), and embeds intelligent cues contextually within webpages.

Status-Quo	Inlay’s Approach	Benefit
Awaiting user-invocation	Proactive embedding of cues	Zero Initiation Friction
High-effort query formulation	Low-effort intent confirmation	Low Translation Friction

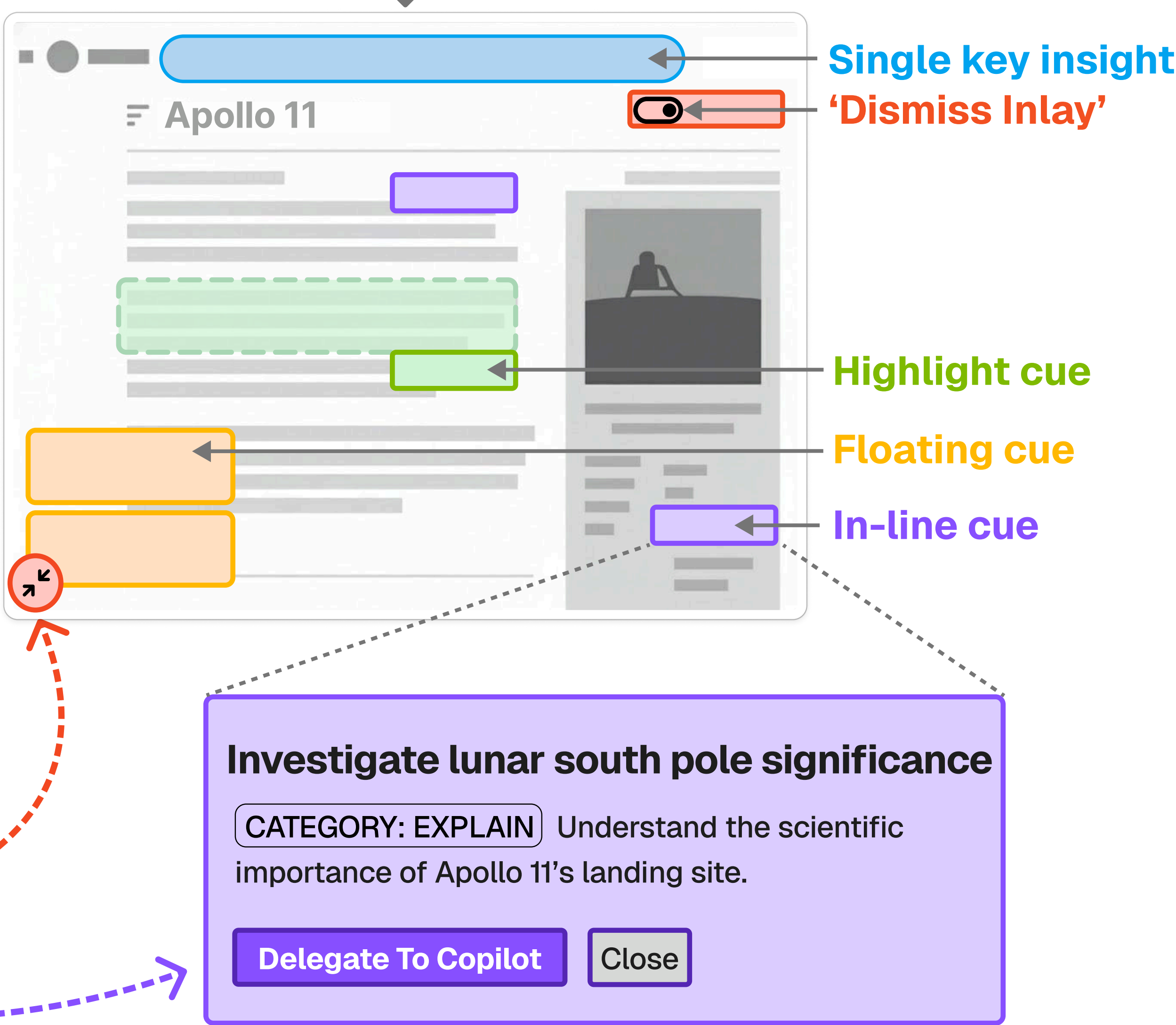


Design Choices

- Mixed-Initiatives Design
- The tedious task of scanning the page is automated away; the user remains in the driver’s seat for serendipitous casual browsing.
- ‘Delegate to Copilot?’
- Inlay augments existing AI browsers by externalizing latent user intent and delegating it to downstream agents for execution.

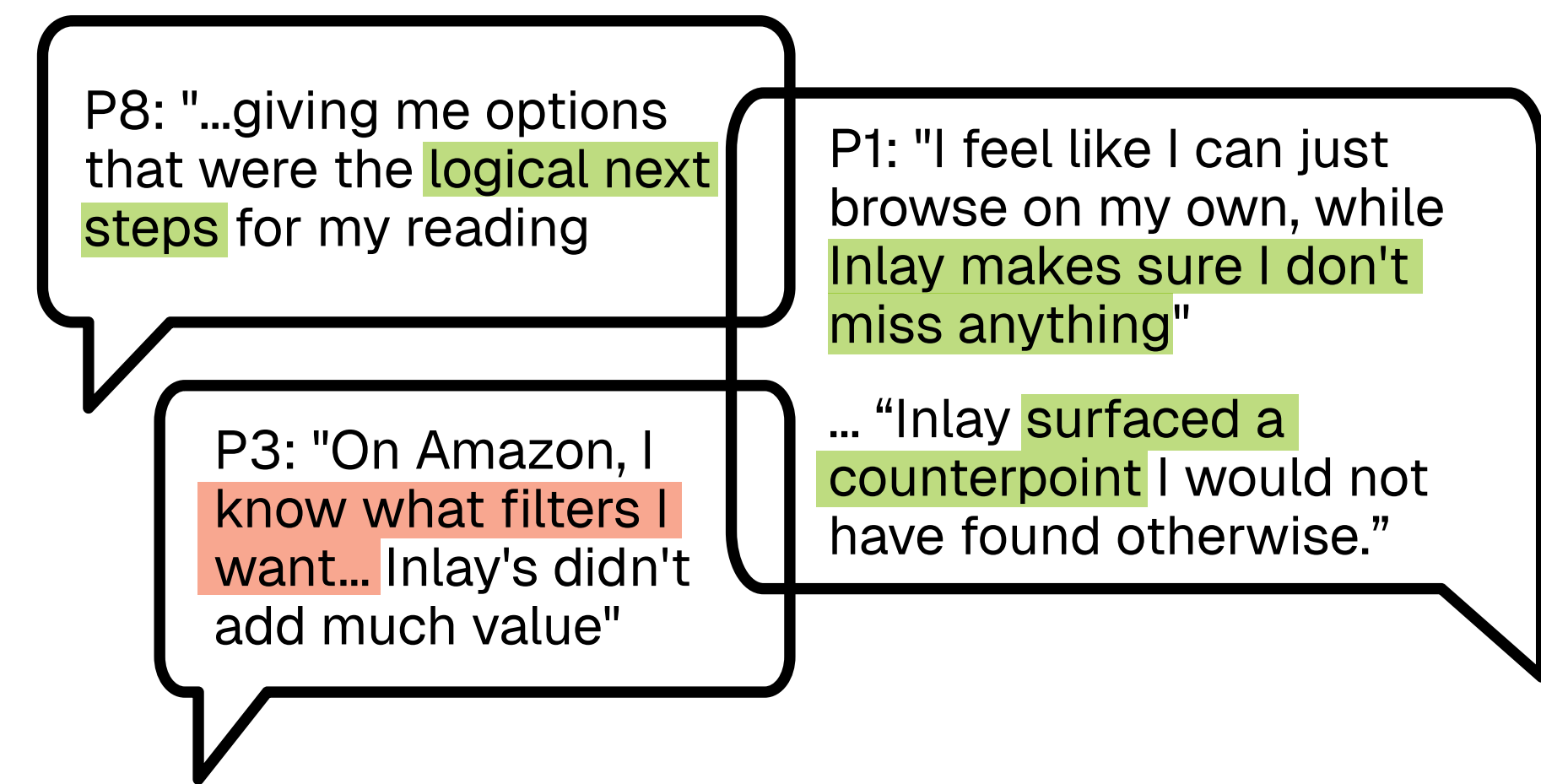
Preserving User Agency

Inlay’s suggestions are surfaced as low-friction cues that are easy to ‘delegate’ or simply ‘dismiss’



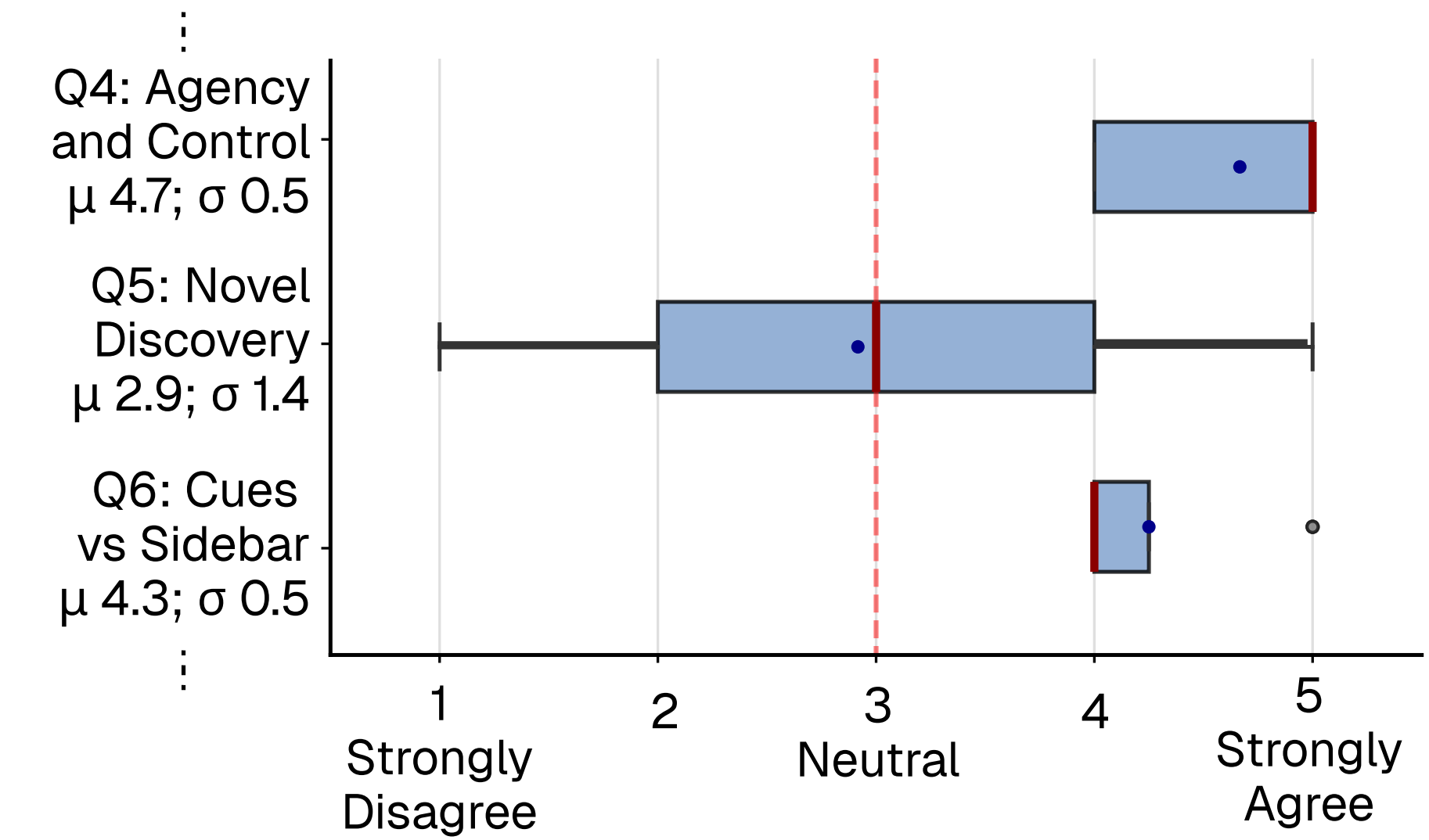
Exploratory User Study

12 participants, 30-minutes of freeform browsing. Quantitative survey, semi-structured interview.



Quantitative Findings (Telemetry + Likert)

- High utility signal (~5:1 delegate:dismiss ratio)
- Habituation over session duration. User activity peaks in the third quarter, stabilises in the fourth.
- Q4 highest-rated → Inlay's proactivity did not compromise users' perceived agency.
 - Strong preference for in-line and in-context highlight cues over ‘global’ floating cues
 - Q5 → Cues redundant in familiar domains, but highly valued for uncovering ‘unknown unknowns’ in unfamiliar ones



Future Work

For practical consumer deployment, need to bridge casual and task-oriented browsing by integrating intent clarification with robust agentic action-taking.

Subsequent studies needed to model adaptive intervention timing based on real-time intent and assess longitudinal persistence.