What Are We Really Trying to Do, When We Augment Reading?

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Abstract

Recent advances in AI and interactive text systems are rapidly expanding what is possible in "augmented reading". Text can now be summarized, highlighted, explained, visualized, compared, and even rewritten in real time. Much of this work assumes that augmentation is inherently beneficial. But toward what end are we augmenting reading? In this position paper, we reflect on the normative goals embedded in augmented reading research. Are we trying to save reading, improve it, protect it from digital distraction, or evolve it into something new? We focus particularly on long-form immersive reading for pleasure, where the objective of augmentation is less clear than in learning-oriented contexts. We argue that HCI research on reading would benefit from more explicitly articulating its underlying values and assumptions about what reading is and what it should become.

CCS Concepts

• **Human-centered computing → Human computer interaction (HCI)**.

Keywords

Reading Augmentation, Digital Reading

1 The Question We Rarely Ask

As Human-Computer Interaction researchers working on reading, we often describe our work as shaping "the future of reading." But what does this really mean? Are we trying to save, improve, protect, adapt, or fundamentally evolve reading? The term "augmented reading" suggests enhancement, yet enhancement implies a direction and a value systems; in other words, assumptions about what reading is and what it should become. These commitments are rarely made explicit.

Much HCI research on augmented reading focuses on instrumental reading contexts—such as research papers [5, 11, 16, 18, 31], textbooks [8], or medical records [20]—where the goals are comparatively clear and evaluation conventions are well established.

Pleasure reading is different. It is not only a cultural practice, but also a precursor to skilled instrumental reading. Voluntary long-form reading, particularly in childhood and adolescence, is strongly associated with academic success, literacy development, and the comprehension skills that instrumental reading depends on [4, 28, 30]. Concerns about declining pleasure reading [2, 23] therefore matter not only because a leisure activity is disappearing, but because a developmental pathway may be weakening.

This raises the stakes, but also makes augmentation more ambiguous. If we intervene to preserve pleasure reading, but reduce the intrinsic motivation and cognitive engagement that make it valuable, what have we preserved? The paradox is that the same digital ecosystem often blamed for fragmenting attention [9](e.g., notifications, feeds, and competing media) is now positioned as the source of solutions.

In this position paper, we propose a preliminary typology of normative goals in augmented reading research and argue that immersive, long-form pleasure reading is a revealing case where common evaluation logics break down.

2 Reading Is Not One Thing

Reading is heterogeneous. We read cereal labels, text messages, research papers, legal contracts, comics, and novels—each involving different goals, time scales, and cognitive demands.

In learning-oriented or task-oriented reading, the objective is usually explicit: comprehension, retention, synthesis, or decision-making. In these contexts, augmentations such as constrained highlighting [14], summarization [27], or in-situ explanations [17**?** , 18] align naturally with measurable outcomes.

Pleasure reading operates differently. Long-form immersive reading, particularly fiction, is motivated by intrinsic enjoyment rather than external performance. While comprehension is necessary, the value of the experience is often described in terms of immersion, emotional engagement, narrative transportation, or empathy [21, 30]; these outcomes that are difficult to quantify and may resist optimization.

This is not only a matter of designing different tools. It changes what "better" reading can mean. When reading serves an external goal, we can evaluate whether augmentation helps achieve that goal. When reading *is* the goal, augmentation's value is harder to define.

3 The Technological Paradox

Reading does not occur in isolation from other technologies. We read on devices that also deliver notifications, messaging, and endless alternatives. The device that enables reading is often the device that makes sustained attention difficult.

In contemporary discourse, declines in deep reading, particularly among younger generations, are frequently attributed to the attention-shaping effects of digital media, including interruption, multitasking, and competition for attention [9]. Yet many proposed remedies involve more technology: AI-powered features, interactive elements, extended reality, and adaptive interfaces.

This creates a tension at the center of augmented reading research. Are we addressing root causes, or compensating for an environment that makes reading harder? Are we improving reading, or building patches for a problem that interface design helped create?

4 A Preliminary Typology of Augmented Reading Goals

Augmented reading research is often framed as improvement, but "improvement" depends on what we believe reading is for. Below, we outline four orientations that frequently appear in the literature.

4.1 Saving Reading

One narrative suggests that deep reading is in decline due to reduced attention spans, decreased book reading, and competition from other media. Much work on pleasure reading begins by invoking this decline [1, 6]. Whether through making reading more interactive [24], social [10, 26], or immersive [15, 25], these approaches treat technology as a way to preserve a threatened practice.

This framing assumes that declining rates represent loss rather than transformation. It also raises a harder question: if the developmental value of pleasure reading stems from sustained attention, intrinsic motivation, and cognitive effort [30], then making reading more "engaging" through gamification or interactivity might preserve the practice while undermining its function.

4.2 Improving Reading Or Reducing Friction?

This orientation contains two related but distinct approaches.

The first treats reading as optimizable through measurable outcomes such as speed, comprehension, or recall. The second leverages digital affordances to remove friction that print introduces: instant dictionary lookups, previews, persistent highlights, and lightweight navigation. These interventions do not necessarily aim to make reading faster or deeper; they aim to make it less interrupted by the medium itself.

The boundary between scaffolding and substitution is often unclear.

Consider character tracking support in fiction interfaces. While prior research has shown a positive effect of such support on story comprehension [22], our preliminary empirical insights suggest that its value is not uniform across readers. Less experienced or less confident readers often describe relief and increased clarity when provided with structured character overviews, especially in narratives with large casts. Others find such assistance distracting, as tracking characters is part of their engagement with narrative complexity and a source of narrative satisfaction in itself. What functions as scaffolding for one reader may feel like substitution for another. Is the goal to make novels more accessible, or to preserve the cognitive challenge that expert readers value? The answer depends on which conception of reading, and which reader, we prioritize.

A similar tension appears in VR reading research. VR has been explored for its potential to enhance presence, transportation, and empathy—qualities central to immersive reading [30]. Yet as Mangen argues [19], attributing narrative transportation primarily to technology risks overlooking that it is the narrative content that drives these experiences. Is VR meant to enhance traditional reading, provide an alternative medium, attract new audiences, or create a fundamentally new practice? Each goal implies different criteria for success and different assumptions about what reading should become.

4.3 Protecting Reading

Some systems aim to protect reading from distraction. Distraction-free interfaces, slow-reading tools, and minimal devices attempt to preserve focus and depth by removing competing affordances.

Devices like reMarkable[1] offer an e-ink writing and reading surface with no browser or notifications. Similarly, Kindle[2] and distraction-blocking applications attempt to carve out protected spaces for reading within attention-saturated environments. In some cases, readers deliberately return to physical books as a strategy against digital fragmentation [12].

These interventions treat the problem as ecological: reading is shaped not only by text and interface, but by the surrounding system of interruptions and incentives. They also complicate the notion of augmentation: in this orientation, supporting reading often means removing features rather than adding them.

4.4 Evolving Reading

Finally, augmented reading can be framed as transformation rather than preservation. Multimodal texts [24], adaptive features [7, 31], extended reality experiences [13, 25, 29], and AI companions [3] may reshape reading into a hybrid activity that blends interpretation, interaction, and co-creation.

Interactive fiction and hypertext narratives have long explored non-linear reading experiences [19]. Augmented scholarly articles integrate interactive simulations directly into text [17, 18]. AI reading companions that discuss books with readers or adapt narrative elements in real time further blur the boundary between reading and dialogue.

These systems do not merely support reading as it exists; they propose that reading may become something else. This raises a definitional question: at what point does augmented reading become a distinct literacy practice rather than an extension of an existing one?

4.5 Each Goal Implies a Different Reader

A further source of ambiguity is that each orientation implicitly selects a different *reader* as its beneficiary.

If the goal is *saving* reading, the imagined reader is often someone who is not reading (or no longer reading): younger readers, reluctant readers, or those drawn toward competing media. Success may be measured through uptake, time spent, or renewed engagement.

If the goal is *improving* reading, the imagined reader might be a struggling learner, a second-language reader, or someone entering a complex domain. Yet many augmentations primarily benefit experts who can take advantage of scaffolds without losing the thread of the text.

If the goal is *protecting* reading, the imagined reader is someone who wants to read deeply but is constantly interrupted. Here, the interface is not trying to make reading more attractive; it is trying to make it more possible.

If the goal is *evolving* reading, the imagined reader is a future reader willing to adopt a new practice. In that case, augmented reading is less about supporting an existing skill and more about proposing a new kind of literacy.

[1] reMarkable, https://remarkable.com/
[2] Amazon Kindle, https://read.amazon.com/

These differences are not only conceptual. They shape what is built and how it is evaluated. A "saving reading" framing tends to motivate interfaces that reduce barriers to entry and success metrics such as uptake, time spent, or retention. An "improving reading" framing motivates scaffolds and assistance, evaluated through comprehension, recall, task performance, or perceived workload. A "protecting reading" framing motivates constraint-based or minimal interfaces, evaluated through sustained attention, reduced interruption, or subjective depth. An "evolving reading" framing motivates new forms of interaction, which may require evaluation methods beyond traditional comprehension and speed metrics.

5 The Hard Case: Immersive Pleasure Reading

When the goal is learning, productivity, or information retrieval, augmentation can be evaluated against clear criteria. Immersive pleasure reading complicates this logic.

If the purpose of reading a novel is narrative transportation and engagement [30], then speed may not be a virtue. If AI provides summaries or interpretations, it may support comprehension but reduce the cognitive and imaginative labor that contributes to the experience. Extended reality environments may heighten presence, but also risk shifting attention away from language itself and toward the medium. Annotations may support critical engagement but disrupt narrative flow.

This raises a question, in line with Mangen's reflection on phenomenological versus technological immersion in reading [19]: at what point does augmentation begin to alter the nature of the experience it seeks to support? If pleasure reading's value depends on sustained focus and imaginative effort, can it be augmented without being fundamentally changed?

For pleasure reading, "better" is not easily defined. Increased efficiency, assistance, or interactivity may not align with the values that make immersive reading meaningful.

6 Toward More Explicit Normative Framing

Augmented reading research would benefit from making its normative commitments more explicit.

When designing and evaluating systems, researchers might ask:

- What conception of reading is being assumed?
- What is being optimized, and for whom?
- What trade-offs are being accepted?
- What might be diminished through augmentation?
- Are we compensating for a harmful reading environment, or reshaping that environment?

Rather than assuming augmentation is inherently beneficial, we might first ask what kind of reading we want to exist in the future, and why.

As AI systems become increasingly capable of summarizing, generating, and mediating text, these questions become harder to avoid. The future of reading will be shaped not only by technical possibility, but by the values embedded in our designs.

7 Questions for the STAR Workshop

We conclude with a set of open questions that we hope can serve as prompts for discussion at STAR:

- When does augmentation become substitution?
- Should immersive pleasure reading be protected, optimized, or allowed to evolve?
- What evaluation methods can capture immersion, transportation, or pleasure without reducing them to productivity?
- How should augmented reading research treat the attention economy as part of the reading problem space?
- What forms of reading might be lost through augmentation, and do we care?
- If the goal is to "save" reading, what exactly are we trying to preserve: the medium, the cognitive practice, the cultural status of books, or something else?

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