

Could AI Help You Revise Your Writing?

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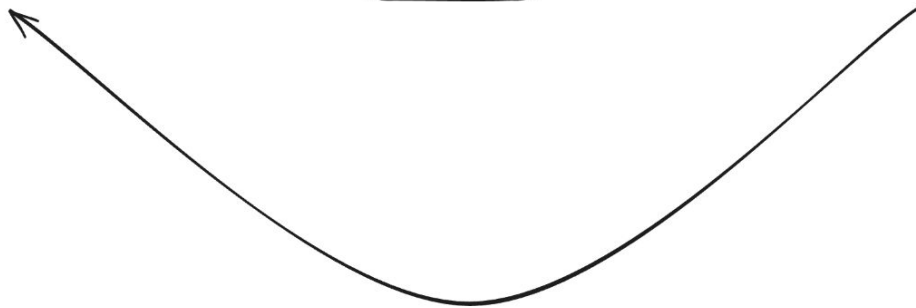
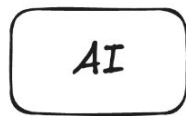
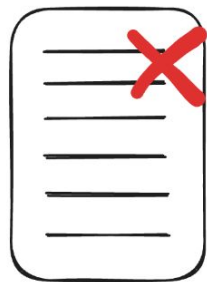
Collaborators

- Ken Arnold
- Xiang “Anthony” Chen, UCLA HCI Research
- Phillippe Laban, Microsoft Research

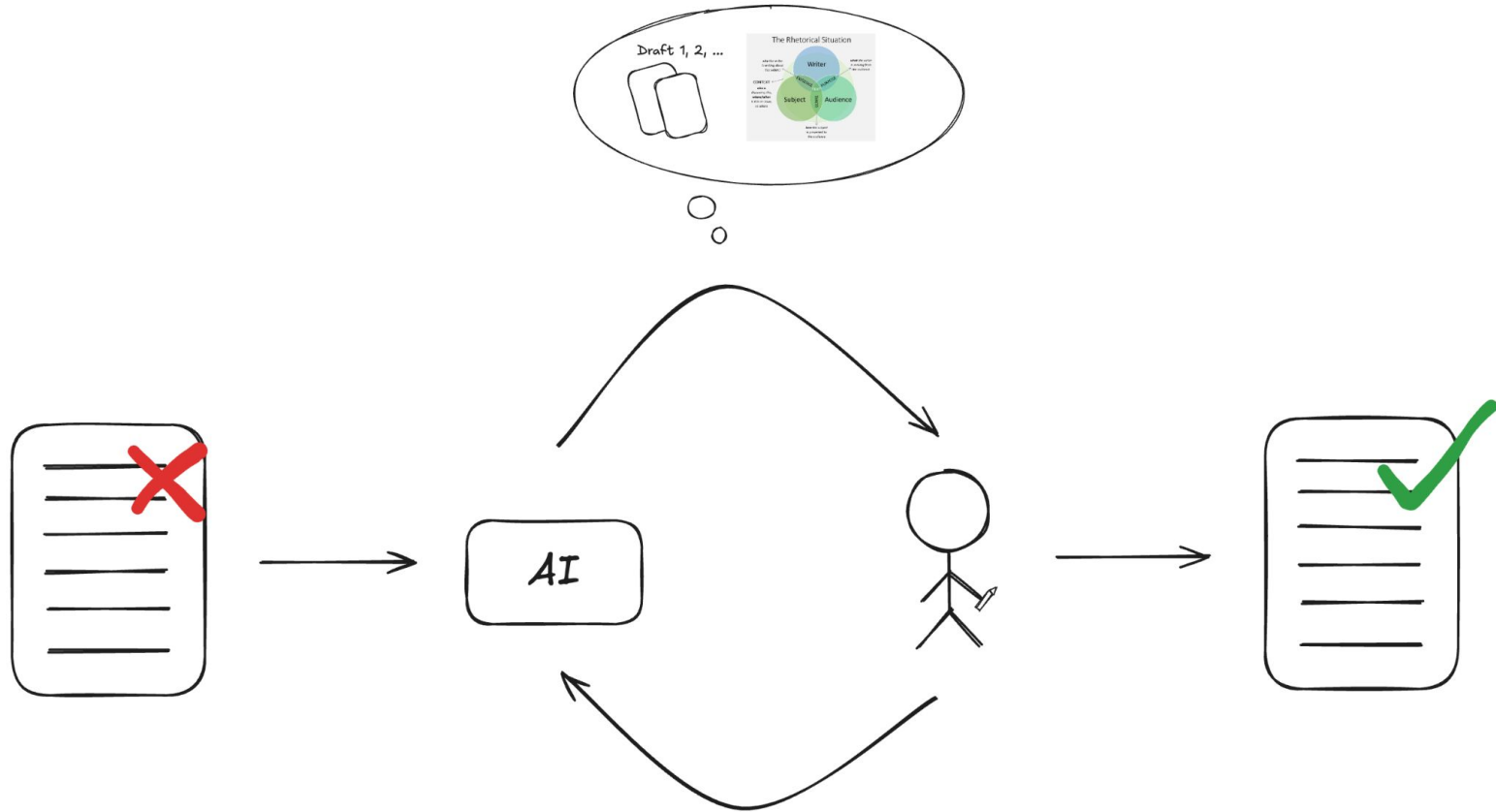
Motivation

- Revision is necessary to meet audience expectations.
- But current approach involves delegating almost all writing and thinking to AI (e.g., asking ChatGPT to “make this better”). This leads to:
 - Loss of sense of agency and sense of ownership.
 - Loss of accountability for the work.
 - Inefficiency when AI’s response is not satisfactory (i.e., you must “wrangle” with AI’s responses to get the response you desire).
- But what if we could *think with AI* instead of letting AI think for us?
- What if AI could help you reflect on your paper, helping you revise your paper to better serve audience expectations and your own goals?

"AI thinking for you"



"Thinking with AI"



What about Interaction Modality?

- Text-in and text-out interaction (i.e. chatbot interaction) is already redundant to writing and may add to the cognitive load of writing (i.e., if you could spend effort on *writing about your paper* with AI, you might as well just *write your paper* without AI).
- But *talking about your writing* could relieve some of this cognitive load (i.e., you could *continue writing your paper* while *talking about your paper*).
- So, could speech-in and speech-out interaction make a difference?

Research Questions

RQ1: How do personal reflection vs. AI-assisted reflection impact writing quality, cognitive load, and the writer's sense of ownership and agency during the revision process?

RQ2: How does the mode of AI-assisted interaction (text-based vs. speech-based) influence the quality, cognitive load, expressiveness, and user satisfaction of reflective thinking and writing processes?

Demo of a Formative System

Next Steps

- Formative study on the modalities.
- Summative study on reflecting with AI (answering the RQs).
- Write paper & publish.