Selfsourced Writing

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Bio

Jaime Teevan is a Principal Researcher at Microsoft Research and affiliate faculty at the University of Washington. Working at the intersection of human computer interaction, information retrieval, and social media, she studies people's information seeking activities. Her accomplishments have been honored with Technology Review (TR35) Young Innovator and Borg Early Career awards. She has published numerous technical articles, including several books and best papers, and given keynotes at CIKM, UMAP and Web Science. Jaime received a Ph.D. from MIT and a B.S. in Computer Science from Yale University.

Abstract

I found it hard to start writing this document, and put it off until the last possible moment. Complex tasks like writing are difficult to do because they seem to require long, uninterrupted periods of deep engagement to make meaningful progress. My goal is to change this. My colleagues and I exploring the idea of *selfsourcing* as a way to help people easily perform large personal information tasks by breaking them all the way down into microtasks that only take a few seconds each to complete [7]. Using ideas from crowdsourcing and task management, selfsourcing can help people engage in difficult tasks [2], recover quickly from interruptions [3], and take advantage of existing small gaps in time to be productive even while mobile [5]. Additionally, the subset of personal information microtasks that do not require personal knowledge or contain private content can be shared with collaborators, crowdsourced, or even automated.

Writing

We are exploring selfsourcing in the context of writing because writing requires fundamental but varied skills such as reading, analysis, reasoning, and communication. Through writing, people solidify concepts that were previously hazy, challenge and transform existing knowledge, and construct entirely new models of reality. As such, writing tools provide a valuable lens by which to understand and explore interesting problems related to information work [4].

Decomposing Writing into Microtasks

To selfsource writing we must identify ways to algorithmically create writing microtasks that can be completed in isolation with minimal attention, context, skill, and time, and then recomposed into coherent text. Some mechanical writing tasks, like proof reading, easily lend themselves to microtasking and represent low hanging fruit. Highly formulaic content is likewise straight forward to selfsource. For example, although I am not an attorney, I can create a will by simply filling out a form provided by an online will generator. We believe it is also possible to selfsource more complex aspects of writing, including content generation. As an example, MicroWriter users can complete a series of idea generation, labeling, and writing tasks to create blog posts and project reports from scratch [6]. Successful writing workflows need to encapsulate the appropriate context in each microtask, and be robust to errors in how individual microtasks are performed.

Sourcing the Writing Microtasks

While the task of writing requires unique input from the author, not all of the smaller associated microtasks do. Selfsourcing provides a straightforward way for people to tradeoff factors like cost, effort, tolerance for error, and privacy when soliciting input from other sources.

Collaboration

The structure of decomposed writing has been shown to reduce the coordination overhead associated with collaborative writing and enable multiple authors to feel like everyone has contributed to all aspects of a document [6]. Authors can also use selfsourcing to work with unknown collaborators by allocating some of their microtasks to paid crowd workers [5] or workers who can contribute unique skills or contexts [1].

Automation

The decomposition of writing into small pieces also makes it easy to incorporate automation into the writing process. Common microtasks can be learned as people perform them, with the system first asking authors to complete microtasks on their own, then suggesting solutions, and finally taking over entirely.

My hope with this work is that one day writing documents like this won't involve putting the task off for days and then staring at a blank screen when I finally get around to it. Instead, I want to jot down ideas as they come to me and organize them from the bottom up in my spare time, so that I start out with a rich populated document that the system automatically helps me engage with, edit, and develop.

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