
PIM: Reflections and Three Issues

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Abstract

This paper draws on work originally carried out in the 1990's, to raise three issues for discussion in the workshop: (1) the roles that material context and conditions play in making PIM effective or not; (2) the ways in which PIM, oft construed as a solitary activity, has social dimensions; and (3) the ways in which the management of personal information shapes its use, which in turn shapes its management, and so on. The paper also touches on the degree to which changes in technology and human practices over the ensuring two decades have affected these issues.

Author Keywords

PIM; embodiment;

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H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

Introduction

I come at PIM from two directions. I have long made concerted (some would say obsessive) efforts to design ways of managing my own personal information. And I've also worked on PIM research and development projects, primarily in the late 80's and early 90's during my years at Apple – so I come to the topic with a bit of perspective – and the fabled 20-20 hindsight.

Hunters and Gatherers

During 1989-90 I conducted a never-published study of PIM artifacts at Apple. It was essentially an effort to update and extend Tom Malone's classic study of desktop organization. We asked people how they managed their personal information, and asked them to walk us through their days, showing us the tools and artifacts they made use of. We also asked each person to describe one or more ways in which their systems had failed. The reports of our informants led us to develop a spectrum of PIM styles: from Hunters to Gatherers.

Hunters exerted relatively little effort organizing incoming information, but rather saved their effort for when the information was needed. Thus, for someone at the hunter end of the spectrum, like often ended up with like (e.g. a pile of faxes, a pile of mail, etc.). While Hunters did indeed have to expend more energy searching for information when they needed it, they were often surprisingly efficient because they knew the 'habits' of their information artifacts. They knew where the information was likely to reside because they understood its movements and its haunts. At the other end of the spectrum were Gatherers.

Gatherers spent a lot of effort gathering and organizing information to support particular tasks. They often developed elaborate systems with customized artifacts and notations, with the payoff being, at least in theory, having the information 'at hand' when it was needed for a task. While our Gatherer informants often reported that practice mirrored theory, they also provided interesting reports of failure. What was interesting is that Gatherer failures were often breakdowns of their systems. A common pattern would be that a Gatherer

would get overloaded, be unable to maintain the effort of keeping up his or her systems, and would then be plunged into a period of catastrophic failure, not knowing where anything would be, not just for a single task, but for most tasks. That is, Gatherer systems tended to be fragile, in contrast to Hunter's systems that were robust, if less efficient.

This account signals one issue I would like to pursue in the context of the workshop: the roles that the material context and conditions within which PIM occurs play in making PIM effective or not. It seems to me that in theorizing PIM, we have not paid sufficient attention to embodiment and situatedness.

The Accountants Study

Around 1990 I studied information management at a large accounting firm (see Erickson and Salomon, 1991). The study consisted of observations and interviews of accountants, and was driven by a incipient project to create a digital library of company information for the accountants.

The accountants were clearly Gatherers, and provided a wealth of artifacts (e.g., clipping notebooks) and practices (e.g., skimming annotating, and meta-auditing). However, one surprising result came out of the study. After we'd observed and interviewed them, we described the vision of a digital library and asked for their opinions about its usefulness. While they agreed such a library might be useful, it turned out that they weren't actually very interested in the content of the reports. They wanted to use the reports to find out who had authored the reports. Then they'd call up the author to find out the politics of the organization, and the gossip about the key players, and useful trivial

information like what kind of Scotch the CEO liked. Furthermore, once they'd contacted the author and obtained that information, they had created or strengthened a social bond, and created an obligation that could be reciprocally drawn upon in the future.

This account signals another issue I would like to pursue in the workshop: What role does PIM play as an asset in creating and maintaining social relationships? And to what extent do people 'outsource' some of their PIM tasks to others? And, furthermore, to what extent and under what conditions is PIM really a group effort? This latter question is something I've considered briefly in "From PIM to GIM" (Erickson, 2006).

Personal Information Notebook

Perhaps my best known work in PIM is a reflective study of the design and long-term use of a personal information notebook. Implemented in Hypercard, I used it for several years, using logging and note-taking to analyze my own use of it.

Among the surprising findings of the study were that my own intuitions about what I wanted for managing my own information were almost always wrong. I kept finding that features I implemented believing that I would use them were used only when I demonstrated the notebook. While the failure of intuitions about others is a common trope among designers, the failure of self-knowledge was more surprising.

A second surprise was that a feature that was added only because it was easy turned out to play a crucial role in the use and management of my personal information. That was the addition of a button that turned personal notes into an easily sent email

message. Because I could easily email notes, I took care to take better notes: more detail, context, etc. Because my notes were better, they were more useful to me later, and easier to search for. This led me to what I call – with tongue partially in cheek – the prime dogma of PIM: The way in which personal information is used shapes its creation and management, which in turn shapes its further use.

An issue I would like to pursue in the workshop is to what extent this dogma holds true, and, in particular, how that intersects with the embodied and situated nature of PIM, and the role of PIM in the larger social contexts its users inhabit.

Discussion

In their response to the initial version of this position paper, the reviewers noted that the world has changed over the two plus decades since the examples I have cited. Clearly, internet-based technologies have been widely adopted and digital content has proliferated; and, as a consequence, this has led to a much greater diversity of PIM practices. The question is to what extent these shifts impact or alter the issues I've raised. It's a provocative question, and while I'll propose my own answer below, I think it would be an excellent line of discussion for the workshop to pursue.

To begin I'll recast the issues I raised as claims which explicitly reflect my positions:

1. Material context and conditions play a key role in making PIM effective or not (e.g., Hunters and Gatherers).
2. PIM, although sometimes construed as a solitary activity, is strongly shaped by social influences. (e.g., The Accountants)

3. The 'prime dogma' of PIM: The way in which personal information is managed shapes the ways in which it is used, which in turn shapes its management. (e.g., The Notebook)

My response to the questions raised are that the changes of the ensuing two decades have not weakened any of the claims, and, if anything, have intensified them.

With respect to the importance of material context and conditions, while it might seem that the proliferation of digital information would undermine the importance of material context, I believe the widespread use of mobile technologies works against this. First, mobile devices make digital personal information accessible and useful in a much wider array of real world situations (e.g., the digital shopping list can be viewed in the store), and second, location-awareness can tie personal digital information to particular places (e.g., I can ask my phone to remind me of X when I arrive at home). I would also offer, as a conjecture, that changes of the last two decades are making "hunting" a more viable approach to PIM than gathering.

With respect to the social aspects of PIM, I believe those also have been intensified. The rise of social computing systems like Facebook and Flickr, the commodification of file sharing through systems like Dropbox and Google documents, the now routine sharing capabilities in most calendaring systems, all make it easier to create, structure and manage personal information so that it may be shared with others. It seems to me that today, it is far easier (and more common) to manage personal information that is intended, from the start, to be shared with others.

Finally, with respect to the 'prime dogma' of PIM, namely that ways in which information is managed shape its use which in turn shape the ways in which it is managed, seems to me intensified as well. As I write this, I see this less as a separate issue, than a side effect of the social nature of personal information management. That is, we shape information especially for the audience we intend for it, and with the increased possibilities of audiences for sharing information, and the greater malleability of digital information, the iterative cycle of the creation and management of personal information, and the transformative impact of its use on subsequent iterations PIM practices, will only intensify.

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