Book review:
Keeping Found Things Found: The Study and Practice of Personal Information Management.
By William Jones. Morgan Kaufmann, 2008.

As the quantity of information people are required to deal with in their daily life continues to grow, the associated task of managing this information becomes increasingly relevant and important. Personal Information Management (PIM) as a research field is concerned with understanding the behaviours and problems associated with managing personal information of various kinds. Whereas in his previous book - co-edited with Jaime Teevan [1] - Jones focused on PIM as a research topic for the research community, in this work, he attempts to open up the research that has been performed, making it accessible to people who struggle with managing their information. As Jones notes early on the book this means just about everyone! The aim here is to inform the reader about scientific results in order to encourage him to think differently about the PIM strategies he employs and to use the gained knowledge to make informed changes to his habits with respect to his own individual needs and circumstances.

Opening up scientific work to the masses is difficult. However, although Jones sometimes loses sight of this primary objective, he has created an informative and accessible resource that provides a bridge between the scientific work in this area and the many popular "self-help" manuals, which claim to solve PIM problems and increase productivity. This bridge is much needed not least because the advice given in such manuals often runs contrary to experimental findings. Jones does not attempt to provide any naïve, one-size-fits-all solutions, but rather tries to provide the tools for the reader to think about their own habits and analyse their consequences, while providing enough examples to inspire new solutions, which may be adapted to more effectively fit the reader's needs. As part of this approach, at the end of most chapters, a "what next for you and me" panel is included, which provides hints, techniques and suggestions that may be of assistance. Also included are panels "what next for IT", which looks at the chapter's relevance to the IT departments and from the perspective of organisations, and "What next for Tool Development", which highlights what the chapter's content means with respect to the development of future tools. On the whole, I found these panels less useful with respect to the aims of the book, however there were some interesting snippets of information here too.

The book is structured around 4 main parts. Part 1 lays the foundations of the book, introducing the problem and the relevant terminology; Part 2 deals with PIM activities i.e. the main behaviours people undertake when managing their personal information; Part 3 looks to the future to discuss potential PIM solutions; finally, Part 4 attempts to tie the material together and draws useful conclusions.

Chapter 1 introduces PIM, explaining why it is important and why it is difficult – both at a practical level and as a research problem. One of the main points made in Chapter 1 is that these two problems generally go hand in hand and Jones exemplifies this with his discussion of fragmentation in PIM. He explains that not only is one of the main difficulties of managing information that it can be in found, created and stored in different formats and different locations, but research on PIM is also fragmented across various research domains from cognitive psychology to information science to database systems. The response has been recent efforts to develop a PIM research community where researchers with various backgrounds who are interested in PIM can come together to share knowledge and expertise and ultimately progress. It is the body of research accumulated from this community that forms the basis of this book. An important point in Chapter 1 is that PIM is more than just about managing information. It is explained that information consumes other important resources (time, money, attention etc.) and is therefore a problem worthy of attention. On a philosophical note, Jones posits that we experience our world through our information and

consequently to manage information is to manage one's reality. Points such as these highlight a major theme of the book. Jones is trying to change how the reader thinks about their information and I believe he will be largely successful in this aim.

Chapters 2 and 3 introduce terminology that is referred to widely in the remainder of the text. The reader is also gently introduced to research concepts, such as Shannon's theory of communication. This is done in a light way and the work is made accessible through well chosen examples. Some of the definitions that are stated as fact may be questioned. For example, Jones does not classify a webpage as an information item. Nevertheless his perspective is well argued and clear. I also found some of the examples in Chapters 2 and 3 to be superfluous. The sheer quantity of examples provided is likely intended to cement the reader's understanding, but often they concern how PIM may be performed in the future – Jones' vision of the future – and, in my opinion, may be counter productive.

Chapter 4 deals with finding activities. In contrast to previous work, including Jones' own previous publications, finding and re-finding are treated together. This is a smart move and allows different kinds of finding to be discussed, compared and contrasted. While Jones introduces information seeking research, such as well known works by Belkin and Bates, he also demonstrates that much of everyday finding does not fit this model, where the user is seeking to find out something new or fill gaps in his understanding of the world. Jones illustrates that finding tasks often involving the looking up of small properties or facts, many of which have been known in the past. This is important as it is something that is not tackled very well in the literature and it also encourages the reader to think about finding differently and to realise just how often they are required to find. In this chapter, I particularly enjoyed reading about different ways of considering the act of finding, such as considering it as a dialog and there was a particularly interesting discussion on wayfinding within information spaces and the comparison with geographical and city planning terminology. Again this builds towards the goal of changing the reader's perception of the their information.

Chapter 5 introduces and defines concepts of information keeping, organising and maintenance. As in the previous chapters, with the assistance of plentiful examples, different strategies and implementations of these are described. By summarizing in clear language and providing pointers to relevant research, the positive and negative outcomes of these tactics are explained. For example, it is explained that the decisions to keep or not keep information both have associated costs and it is up to the individual user to balance these costs with respect to his own context and needs. The chapter also reviews research that illustrates the difficulties people tend to have when keeping and organising information. As part of the explanations, Jones differentiates between reference collections and project collections and illustrates the distinction with examples. I am not sure that the distinction is a particularly useful one as there is a significant grey area and possibly overlap between the two and I don't think it will be universally meaningful because not everyone has the need to undertake projects. Nevertheless, I do think the examples given and the discussion of these examples are interesting and, again, will encourage people to think about how they use folders and the consequences of their actions.

Chapter 6 focuses on activities associated with maintaining collections of personal information. The chapter deals with maintaining for tasks in the near future, maintaining for uses in the long-term future (perhaps 10-20 years from now), and for maintaining for the time beyond our lives. The many challenges of collection maintenance are introduced and discussed and I am certain this chapter will be illuminating and thought provoking for the reader. I would go as far as to say that this is the most comprehensive resource available on PIM maintenance activities. There has been limited research on this area and therefore much of the material is anecdotal, although there are pointers to the few studies that have been performed and the examples provided are well thought out and appropriate.

Chapter 7 deals with the topics of information flow and privacy. The first part of the chapter outlines the relationship between information flow, privacy and control and tackles questions such as: which kinds of information are outflowing / inflowing? Which of these are within our control and what can we do to increase control? Again, the reader is encouraged to think about how these questions related to their own PIM circumstances. Jones asserts his belief that people need to be pragmatic about loosening their grip on the control of personal information, balancing privacy with the need or desire for products and services. A central point in the chapter is the increase in flow of information that has been brought about by technology and the consequences and dangers of this increase. Jones introduces problems, such as phishing and having to agree to various terms and conditions of use, which are often detailed in several pages of text, before gaining access to products and services. He also discusses potential solutions, including a good overview of the P3P project (Platform for Privacy and Preferences Project) – an attempt to create a common language for expressing privacy preferences and policy. As with previous chapters the examples provided are crucial to conveying what is sometimes complicated or dry material. Particularly illuminating was the example by Shamos, taken from Jones' previous book [1], which illustrates the extent of personal information freely available on the web regarding American citizens.

In the second part of the chapter information flow and attention are discussed and Jones reviews some fascinating research on television cuts to capture attention, relating this work to PIM situations. He then moves on to discuss "being in the flow of work", describing what it means to be in the flow and outlining the characteristics of such a productive state. Related to this, research on interruptions is reviewed, highlighting how often people are unnecessarily disturbed from their flow of work, both from outside agents and their own computer. The chapter ends with some practical hints at reducing interruptions. At first glance the topics discussed in Chapter 7 – privacy concerns, attention, workflow – might not seem to fit together. However, Jones finds a sensible train of thought linking the topics and provides an interesting commentary throughout.

One of the many suggestions made to help the reader improve his PIM behaviour is to encourage them to evaluate their habits and determine if and how these are working. Chapter 8, titled "Measuring and Evaluating", is important in this respect as it attempts to provide the methods to do this. The chapter deals with evaluating organisational schemes and tools, as well as the strategies which tie these together. Measuring and evaluating PIM behaviour is also a challenge for PIM researchers and Jones tries to illustrate how methods used by researchers can be utilised by individuals to evaluate their behaviour. He details two techniques, Crticial Incident Technique and Experience Sampling, both of which are potentially useful as a means of understand the impact of PIM strategies. I am curious, however, to know how many people will take the time and effort required to implement these strategies and whether the rewards will be worth the costs. Jones also discusses making decisions with respect to changing PIM strategies or tools. The introduction of a simplified theory of signal detectability (TSD) example was interesting and I believe useful way for people to evaluate the costs and benefits of a change.

Chapter 9 deals with making sense of information. This is a curious chapter as the topic has not really featured to date in the PIM literature. While reading I even doubted the relevance because "making sense" as Jones describes it is so broad that you could substitute with the word "thinking". However, I was later convinced of the relevance to PIM by the diverse examples presented, from Mendleev's discovery of the periodic table to visualisations used to block a planned building in a small town. The chapter is also of practical benefit to the reader as useful techniques, such as Affinity Diagrams and Mindmaps are introduced and explained. Despite my initial skepticism, this is one of the most interesting chapters and certainly one that introduced me to new material.

The third part of the book is titled Solutions, with Chapter 10, the first chapter in this section,

dealing with Email. Email was a good place to start this discussion as, as Jones points out, Email is a microcosm of PIM. There has been considerable research attention on Email behaviour and the topics and problems essentially map to those described earlier in the book. Therefore, the summary provided in the first part of this chapter serves as a good reinforcement of the earlier material. The chapter then moves to describe two potential solutions to the problems associated with Email, the first being a vision of an email client with built in interface features for the extra purposes for which people currently use email e.g. task, document and contact management. Jones illustrates the kind of approach he means by describing the well known Taskmasker prototype [2]. The second solution described is a vision where email, as we know it, would disappear, being replaced by other communication options, such as wikis and instant messaging. While both of these solutions are interesting research prospects, it is difficult to see how this information will assist the reader with managing their information with tools currently available. More useful was the panel contributed by Olle Bälter, which offered some useful practical tips for successful email management.

Chapter 11 deals with search. It outlines search as a behaviour and also explains at a high level some of the technical aspects of underlying search technology. Jones links this to PIM by explaining how search technology could support other PIM activities, such as filing and maintaining and provides appropriate research citations. Jones also looks at how novel features, taken from a selection of prototype PIM interfaces from the PIM literature, may improve searching in the future. Again, however, although this may be of interest to a layman reader, it is not clear how the information in this chapter will help him with managing his information. An understanding of how indexing and search algorithms function may help to understand how to construct better queries, but I am not sure enough detail is provided to achieve this.

The final two chapters in this part move further into the future to discuss hypothetically what PIM may entail in the years to come. Chapter 12 presents a Utopian mobile PIM vision, where the user's PDA-like device is central to all of their information activities. Although the story described in the example is plausible given certain technological advances, a number of dangers are present in the vision and many legal, social and technical hurdles would need to be overcome to make these reality. Jones discusses some of these dangers and challenges in the second part of the chapter. Chapter 13 takes a similar form to Chapter 12 in that it describes how PIM activities may be performed in the future. Here the focus is on how the web may evolve to support the management of personal information. The reader is introduced to a number of technical terms and technologies (e.g. web 2.0, rss, rdf etc.), and it is explained through examples how these technologies are currently used. Jones then builds on this by offering some ideas for future uses of such technologies. There was a particularly interesting section on the uses and future uses of mashups. Following this, similar to Chapter 12, Jones presents a hypothetical, but extreme example of how PIM on the web might be performed in the future, with data being stored regarding all aspects of an individual's life in a central repository on the web. The advantages, as well as the dangers inherent in such a vision are then discussed. My thoughts on Chapters 12 and 13 are similar to my thoughts on the solutions chapters earlier in the book. I think the topics may be of some interest to the typical reader, but there is too much emphasis here on hypothetical situations that detract from the main aim i.e. to help people improve their PIM as they perform it now.

The final part of the book ties together the material presented. Chapter 14 returns to the problem of information fragmentation and examines ways of integrating or synergising fragmented information. Some of the suggested methods are possible to achieve with current tools, others were based on research concepts, such as the ideas proposed by the Haystack project at MIT[1]. Finally, Chapter 15 reflects on the main issues addressed and how they should impact on the reader both now and in the future.

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1   http://groups.csail.mit.edu/haystack/

To summarize, I would say this is a timely and well presented book, written by someone who has clearly immersed himself in the topic. Jones shares an avalanche of quotes, anecdotes and newspaper articles that must have been collected over a period of years. This passion for the subject shines through in the writing and will hopefully infect the reader. The book also demonstrates both the breadth of PIM and the number of challenges facing individuals when managing their information and related resources that are affected by the management of information.

A theme throughout the book is the attempt to encourage the reader to challenge their perception of information, information concepts and their PIM practices. The writing style reflects this aim with the reader being regularly forced to relate the given examples to their own situations and habits. Paragraphs are often ended with a series of questions relating the the reader's experiences. Jones also makes use of other stylistic devices used to make material accessible. The writing style is informal, simple and conversational and the material is well structured with an orientation section at the beginning and a look back and forward section at the end of each chapter.
Jones also makes frequent use of metaphors - the house metaphor in Chapter 6 was particularly useful - and selects good examples that people will be able to relate to. I should also note that book is wonderfully illustrated and the colourful look and feel adds to the book and will definitely appeal to a general readership.

If I do have a criticism, it is that I think, for the target audience (laymen), there is too much emphasis on future hypothetical situations and, in particular, future research developments and interfaces. While some information on this would likely be of interest to the reader, I don't see how placing the emphasis on this, as the later chapters do, will assist people improve their PIM habits, which is ultimately the reason a layman will decide to read this book. Despite this criticism, I would without doubt recommend the book to anyone struggling with information overload or interested in increasing their productivity. The book may also be of interest to researchers looking for a light introduction to the topic, although Jones' previous book is probably a better starting point for people with research ambitions.

References

1. Jones, W. & Teevan, J., ed. (2007), *Personal Information Management*, Seattle: University of Washington Press.
2. Bellotti, V.; Ducheneaut, N.; Howard, M. A.; Smith, I. E. Taskmaster: recasting email as task management. CSCW 2002 Workshop on Re-designing E-mail for the 21st Century; 2002 November 16; New Orleans, LA.