Personal Information Management

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Challenges

http://www.flickr.com/photos/denverjeffrey/1949574805/

Personal Information Management - Andrea Connell
Challenges

- Information Overload
- Information Fragmentation
- Organization and Labeling Systems
- Personal Nature of Information
Challenges: Information Overload

Too much information can make decisions more difficult.

Users may not have or be willing to dedicate the time it would take to process and organize information properly.

With electronic documents, there is no reason to filter what is published so we have LOTS of information.
Challenges: Information Fragmentation

Data is stored in a variety of formats
   Readings for this class: Safari Online, PDF, hard copy

Used in a variety of applications
   Music: iTunes, Windows Media Player, etc

Located on different devices
   Home computer, work computer, laptop, phone, etc

Separate organization scheme for each type of document
   Electronic files, paper documents, email, websites, etc
Challenges: Organization and Labeling

We know how hard it is to create good organization systems.

We have to remember weeks, months, maybe years later how we categorized a document.

A lot of this relies on good labeling.

With folders on your computer, each file can only be in one place.

The human brain doesn't work like a file system.
Challenges: Personal Information Management

The way people categorize documents is very personalized.

Information is linked to experiences.

The way information is used evolves over time.

It is difficult to study in a lab or create a one-size-fits-all solution.
History of PIM

"Information is a source of learning. But unless it is organized, processed, and available to the right people in a format for decision making, it is a burden, not a benefit."

*William Pollard, 1938*

“A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.”

*Vannevar Bush, 1945*

The phrase "Personal Information Management" was first used in the 1980's around the time of the first PIM tools.
Current Theory

"PIM activities are an effort to establish, use, and maintain a mapping between information and need."

*William Jones*

- Disciplines Involved
- Personal Space of Information
- Personal Information Collection
- Three stages to PIM
- Retrieval Options
Current Theory: Disciplines

- cognitive psychology
- human-computer interaction
- database management
- artificial intelligence
- information and knowledge management
- information retrieval and information science
- information architecture
Current Theory: PSI (Personal Space of Information)

All of the resources about you, created by you, sent to you, experienced by you, useful to you

Each person's PSI influences how they see the world and how the world sees them

You can't control everything in your PSI, but PIM is about controlling as much as possible

A PSI can be broken into more manageable subsets
Current Theory: PIC (Personal Information Collection)

Managed subset of PSI

Homogeneous, structured group of information, kept in a specific place and organized in a specific way

Can be organized by file type, topic, task, etc

Collections require effort to maintain
Current Theory: Three stages to PIM

Storing / Keeping

Managing / Meta-Level Activities

Finding / Re-finding
Current Theory: Storing

When we find new information, we ask:

Do I need this now? Will I need it later?

What is the effort of storing it now, compared to the risk of not having it later should we need it?

How should we store it so we remember that we kept it, why we kept it, where we kept it, and what it is?

Storing information in the wrong way is useless
Current Theory: Managing

- Organizing: Categorizing and Labeling
- Maintaining: Back-ups, Updates, Format Changes
- Managing Privacy
- Evaluating: Do your current PIM practices work? What could be changed?
- Making Sense: Understanding what information we have and what it can be used for
Current Theory: Re-finding

"Studies have shown that 58-81% of web pages accessed were re-visits to pages previously seen"

-Dumais S, Cutrell E, Cadiz JJ, et al.

- Lookup tasks: Need piece of information, but don't know which resource to find it in
- Item tasks: Need to find a particular resource
- Multi-item tasks: Need to collect information from multiple resources

Resources could be hours or years old
Current Theory: Retrieval Options

• Direct Access
Requires knowing what information is needed and the exact file name or location where it can be found

• Browsing
Preferred by most people because they don't remember file names

• Hybrid
Two processes: search then scan
Search gets us as close as our memory can remember. Maybe to the right folder
Scanning the items in that area is based on recognition
PIM Tools

Many tools for Calendar, Email, To-Do List, Contacts, etc
GoogleApps, Outlook, Entourage, WinPIM, Chandler, etc

Reference management software
Mendeley, JabRef, EndNote, Qiqqa, Zotero, etc

Desktop tagging
Microsoft Tesla, Tag2Find, TagLauncher

Planz (Keeping Found Things Found)

Stuff I've Seen (Microsoft)
PIM Tools: Planz

Created by the Keeping Found Things Found group

Create a document for each project

Link files, emails, web pages, photos, etc into this document

http://www.youtube.com/watch?v=jYnUrF3-Ug
PIM Tools: Stuff I've Seen

Created by Microsoft Research

Automatic index of calendar appointments, emails, websites, documents, media, etc that you have looked at before

Conclusion

People still struggle with PIM on a daily basis

• Reckoning paper documents with electronic files
• Knowing which management tool to use
• Deciding which information to store in the first place

There is still a lot of room for improvement and research in PIM.
References