

Personal Information Management

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ICS 616 Information Architecture
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April 14, 2011

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Challenges



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

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

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

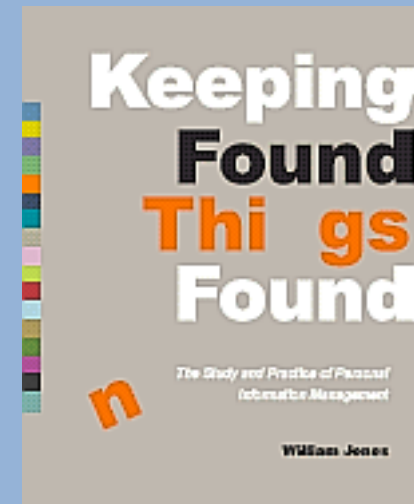
Current Theory: PSI (Personal Space of Information)

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

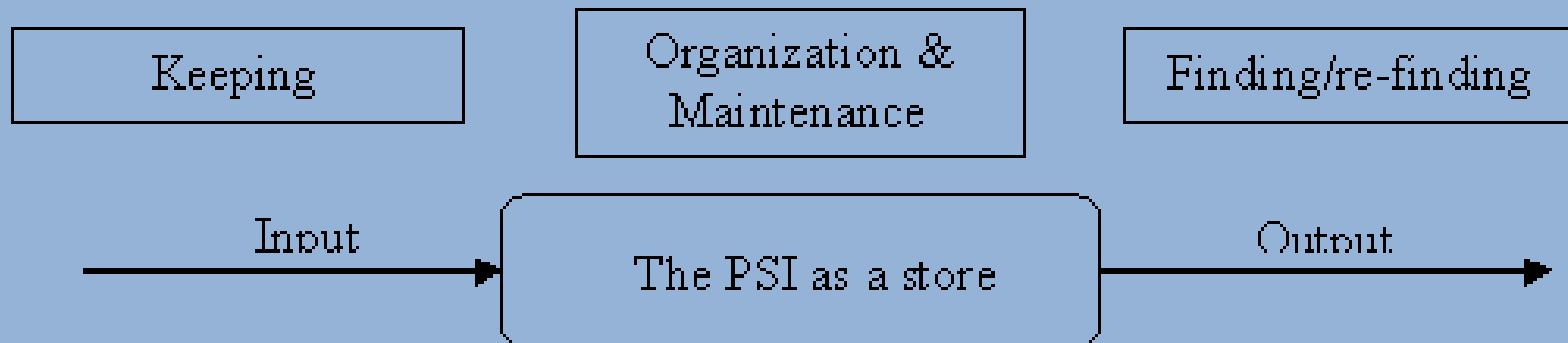


Image From: Keeping Found Things Found

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)

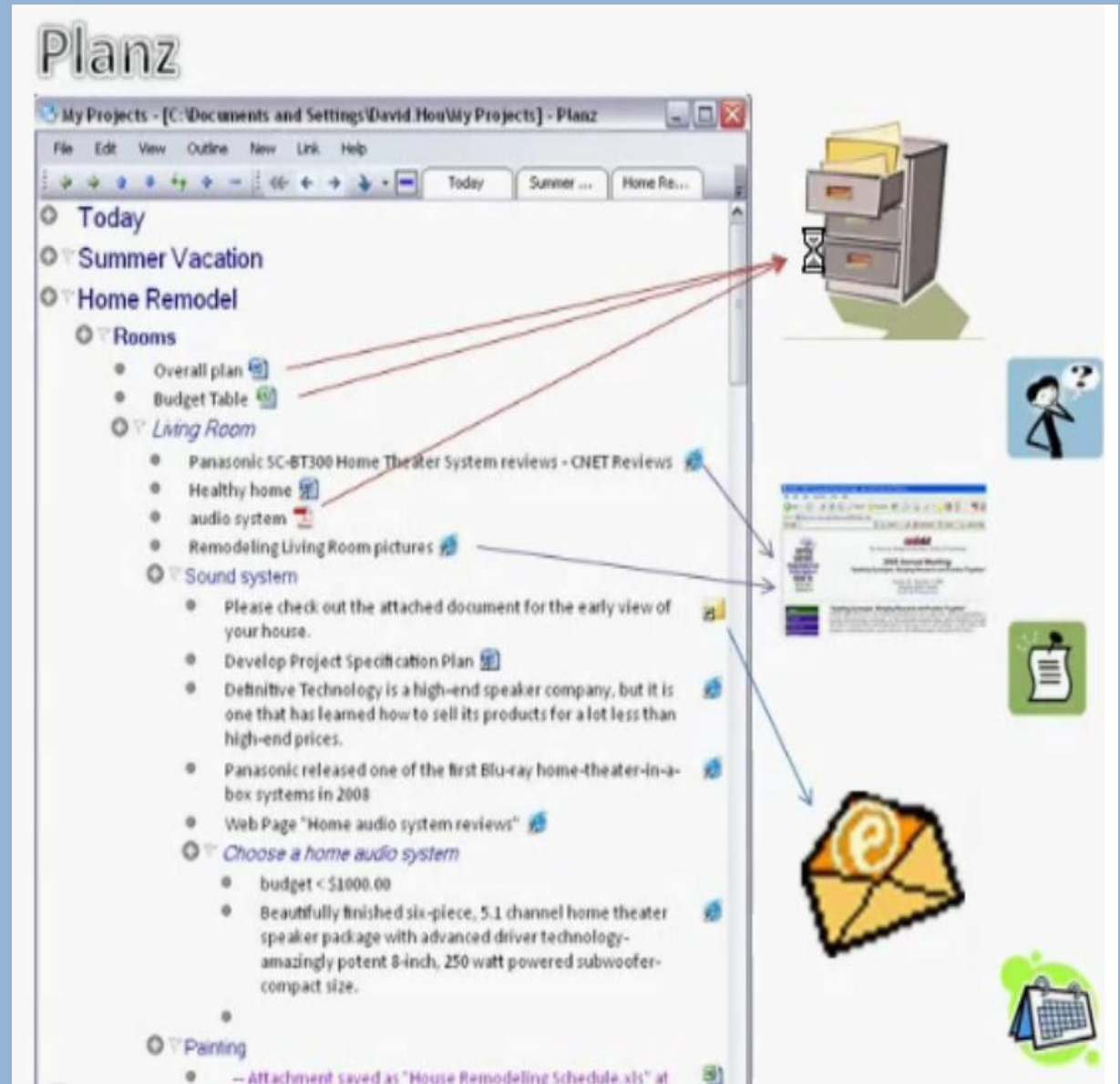
Stuff I've Seen (Microsoft)

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=jJYnUrF3-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

The screenshot shows the 'Stuff I've Seen' application window. The search bar contains 'perception' and the results show 764 rows returned. The results are organized into sections: 'Today' and 'Last 7 days'. Each entry includes a document icon, a title, a date, a rank, an author, and a 'Mail To' field. The 'Today' section includes entries for 'gestalt psychology' and 'Visual Perception'. The 'Last 7 days' section includes entries for 'CogSci/CogEng position' and 'TOC of Perception, Volume 31, SU...'. The application window has a menu bar with 'File', 'View', 'Options...', and 'Help'. The search bar has a 'Go' button and a 'Fuzzy Match' dropdown. There is also a 'Clear All' button.

Document	Date	Rank	Author	Mail To
<input checked="" type="checkbox"/> (All) (764)	<input checked="" type="checkbox"/> (All) (764)			
<input checked="" type="checkbox"/> Web Pages (66)	<input type="checkbox"/> Today (2)			
+ <input checked="" type="checkbox"/> Outlook (366)	<input type="checkbox"/> Yesterday (0)			
+ <input checked="" type="checkbox"/> Files (332)	<input type="checkbox"/> Last 7 days (5)			
	<input type="checkbox"/> Last 30 days (9)			
	<input type="checkbox"/> Older than 30 days (748)			
Today				
gestalt psychology	9/22/2002 4:42 PM	890	Irving Rock	
<i>As a charter member, the gestalt psychologist Max Wertheimer recognized the centrality of psychology to the Graduate Faculty and quickly built Department with a world-wide reputation for excellence, focusing on empirical approaches to the study of psychology. The addition of a</i>				
Visual Perception	9/22/2002 4:27 PM	934	Wolfgang Köhler	
<i>Visual Perception: Gestalt Laws TO SEE IS... TO THINK (S. Dall). Gestalt psychology is a movement in experimental psychology prior to World War I. It made important contributions to the study of visual perception and</i>				
Last 7 days				
CogSci/CogEng position	9/20/2002 5:24 AM	645	Tyrone Stothrop	CHI-ANNOUNCEMEN...
<i>The Cognitive Science Department of Rensselaer Polytechnic Institute anticipates one or more openings beginning in Fall 2003, rank open. We candidates who have a Ph.D. in Cognitive Science or one of its contributing disciplines (i.e., AI/Computer Science, Psychology,</i>				
TOC of Perception, Volume 31, SU...	9/19/2002 9:25 PM	910	articles@ieonline.c...	Mucho Maas
<i>the Microsoft Library Table of Contents Service PERCEPTION Volume 31, SUPP, 2002 The electronic alerting service is provided by the I library customers for business use only. Questions? Email to service@ieonline.com. (363)</i>				

<http://research.microsoft.com/en-us/um/people/cutrell/SISCore-SIGIR2003.pdf>

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.

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