



Viewing Personal Data over Time

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Overview

- **Non-Temporal Interfaces:** Value the importance of exposing metadata in the context of personal information
- **Temporal Interfaces:** Value the change of personal information over time
- **Personal Search Gadget:** Targets emerging novel material over time



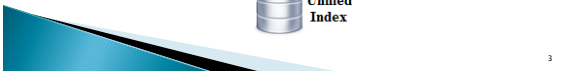
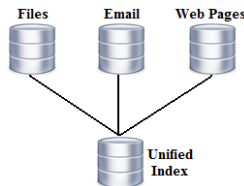
Non-Temporal Interfaces



Non-Temporal Interfaces

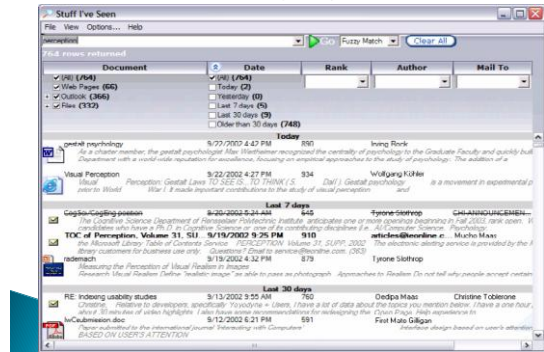
Stuff I've Seen (SIS)

- Provides unified access to information a person has seen, regardless of where it came from
- Focused more on System Infrastructure than UI



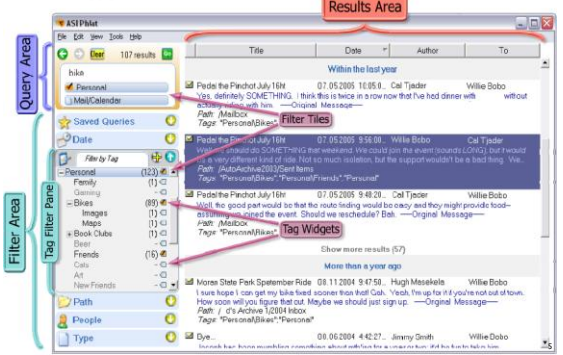
Non-Temporal Interfaces

Stuff I've Seen (SIS)



Non-Temporal Interfaces

Phlat



Non-Temporal Interfaces

Phlat

- Personal Information VS Web searching
- Combines keyword and property-value search
- Focused on UI rather than system infrastructure
- UI composed of 3 main areas:
 - Query Area
 - Filter Area
 - Results Area



Non-Temporal Interfaces

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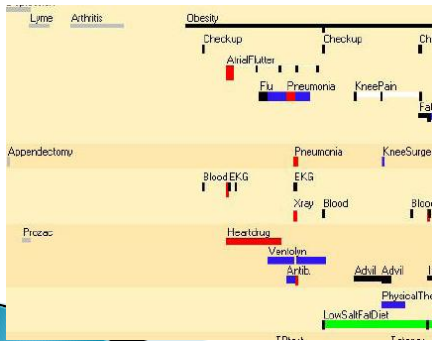
Personal Visualization and Temporality

- ▶ Showing richer temporal information can be useful in the context of personal content
- ▶ Research Approaches:
 - LifeLines
 - LifeStreams
 - Milestones
 - Soylent
 - Themail
 - Personal Narratives



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LifeLines



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LifeLines

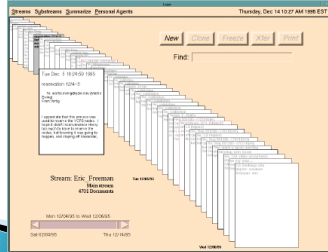
- ▶ Technique for visualizing summaries of personal histories
- ▶ Benefits:
 - Reduce chances of missing information
 - Facilitate the spotting of anomalies and trends
 - Streamline the access to details
 - Remain simple and tailorable to various applications
- ▶ Personal History is presented in a single screen. Facets are regions of the screens, Aspects are lines, Periods correspond to changes along the line, and Discrete Events are marked by icons.



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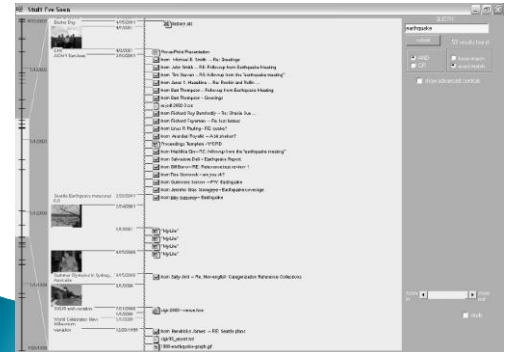
LifeStreams

- ▶ Time-ordered stream of documents functioning as a diary of the user's electronic life
- ▶ Replaces conventional files and directories



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Milestones



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Milestones

- ▶ Prototype providing an interactive visualization of results output by SIS
- ▶ Visualization provides both overview and detail:
 - Overview Timeline (time flows from top to bottom)
 - Date and Landmark information
 - Detailed Portion: time last modified, doc type, and doc name
- ▶ Types of Landmarks:
 - Public: Holidays, News Headlines
 - Personal: Calendar Appointments, Digital Photographs

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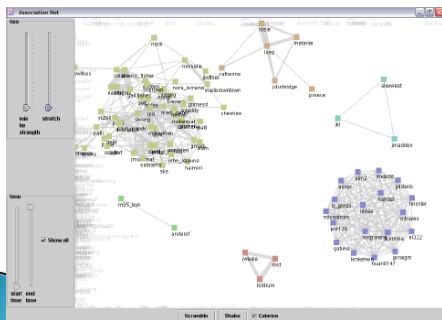
Soylent

- ▶ Hypothesis: Patterns of contact and collaboration leave electronic traces
- ▶ Soylent was designed as an infrastructure for examining, visualizing, and inspecting these traces
- ▶ Gathers information from archived email record headers
- ▶ Visual tools designed to highlight temporal and social structure in stored communication
- ▶ Two main views:
 - Network Diagram: shows *social structure*
 - Top Ten List: shows *temporal structure* (long-term changes in interaction)

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Soylent

Network Diagram Example: Author's email connections



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Soylent

- ▶ Different types of patterns arise:
 - Onion Pattern (central role)
 - Nexus Pattern (multiple roles)
 - Butterfly Pattern (dual roles)

Monthly Top Ten List Example:



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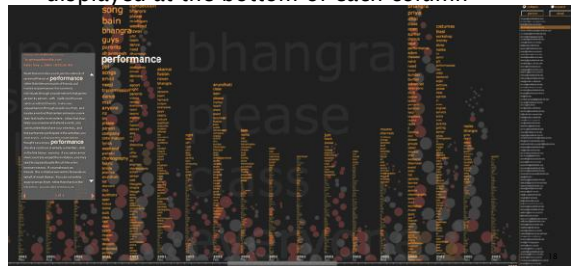
Themail

- ▶ Hypothesis: Visualization of email content constitutes meaningful portraits of people's relationships
- ▶ Themail is a typographic visualization of an individual's email content over time
- ▶ Relies on content of messages, instead of header information to build visual display of interactions
- ▶ Displays multiple layers of information, each encoding a different content-parsing technique

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Themail

- ▶ Yearly (background) and monthly (foreground) words are arranged in columns, with the time displayed at the bottom of each column



Narratives

Example: History of the primary run for presidency by Barack Obama



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Narratives

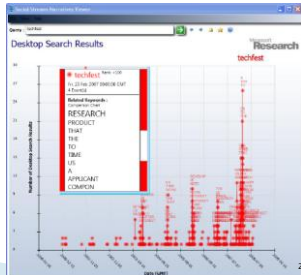
- ▶ Interface that presents trends in keywords over time
- ▶ Visualizes change in number of blog entries posted on news topics over time
- ▶ Maintains broad selection of correlation types:
 - Date-based correlation
 - Numerical correlation
 - Most-correlated terms
 - Dependant correlation

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Personal Narratives

- ▶ Revision of Narratives
- ▶ Visualize the number of references to query terms over time

Example: Personal Narratives, searching for the term "techfest"



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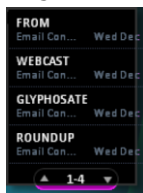
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Personal Search Gadget

- ▶ Monitors user's desktop index looking for material relative to a background model
- ▶ Looks for statistically unusual terms that have recently emerged



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Conclusion

- ▶ These Social and Temporal perspectives can be useful in the context of personal info
- ▶ Limitations of content parsing:
 - Weight Assignments
 - Granularity

Thank You

Questions?

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