Sandia National Laboratories

Archive Assistant

SAND2010-2445P

Archive Assistant quickly searches large repositories of emails and their attachments, reviews compliance markings, and categorizes emails based on their content.

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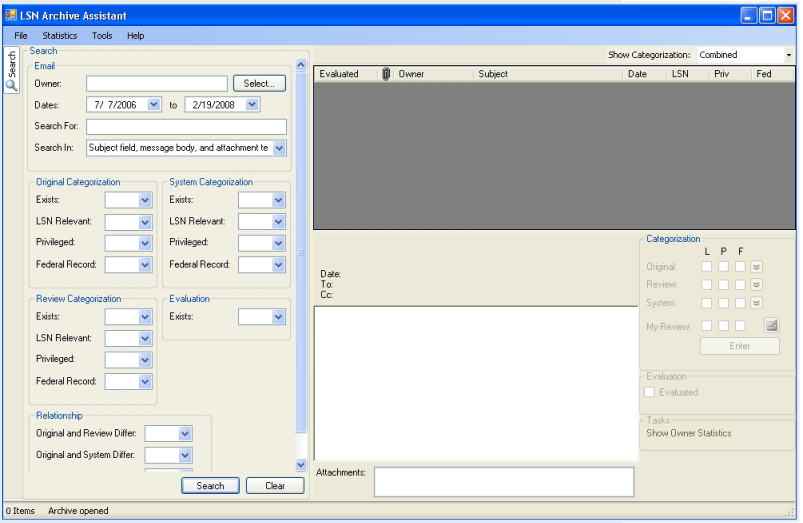


Archive Assistant

Archive Assistant categorizes archived emails using pre-built categorizers that represent labels such as "Private" or "Privileged". Emails without labels will be assigned to appropriate categories and labeled with the approval of a reviewer. For emails previously labeled, Archive Assistant will reevaluate their category and if needed, suggests a new label for approval.

The pre-built categorizers are developed and fine-tuned based on a set of correctly labeled emails. The labels used are defined by the user and multiple categories can be selected. Categorizations can be based on the text within the email content without regard to any previously designated labels.

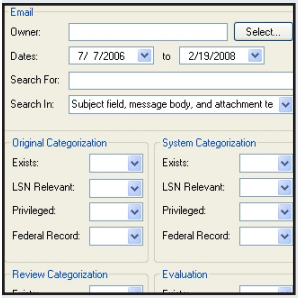
Archive Assistant locates spacific emails, suggests categorization labels to apply to emails and their attachments, and reviews previously labeled emails to identify those that may be miscategorized.

System Requirements

- Microsoft® Windows®
- Categorization Models built by CS&A

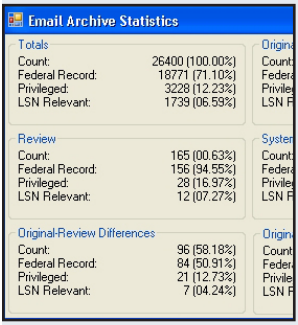
Categorization

Archive Assistant assists in categorizing and appropriately binning archived document sets and emails. Scanning archived sets, the Archive Assistant will use predetermined categorizers to recommend a categorization label based on content. Previously categorized documents can be reviewed to identify inconsistencies and inaccuracies.



Accuracy Increased Over Time

The consistency and quality of the categorizations can be expected to increase as the Archive Assistant is used over time. Categorizers are based on representative sets of documents, and as more documents are identified to belong to a particular category, they can be added to the represented document set. This will tune the associated categorizer and improve its performance.

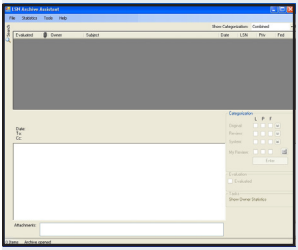


Data Searches

Archives can be searched for specific emails by specifying criteria such as authors, dates, and category labels. Reviewers of document archives can tag a document with their name and review date as a stamp of approval.

Usability

The Archive Assistant user interface is designed to be similar to typical email programs such as Microsoft Outlook, and follows a three-panel approach that enables users to access an email and read it while visualizing its relationship with other data.



Applications

Archive Assistant is used by Sandia National Laboratories to review categorizations of emails for compliance with DOE policies.

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About Cognitive Science and Applications

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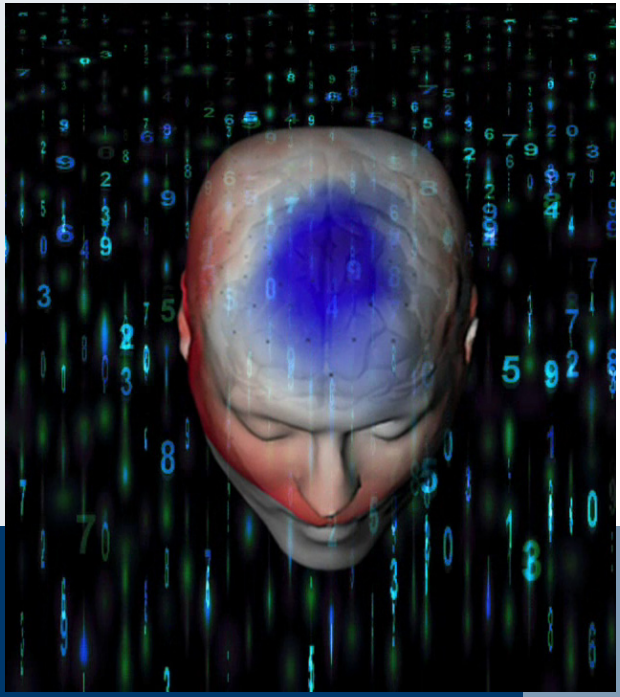

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Data Trace Tool

Data Trace Tool creates a graphical map of related information as you browse the Internet and traverse through document sets, allowing searches to be recorded and saved.

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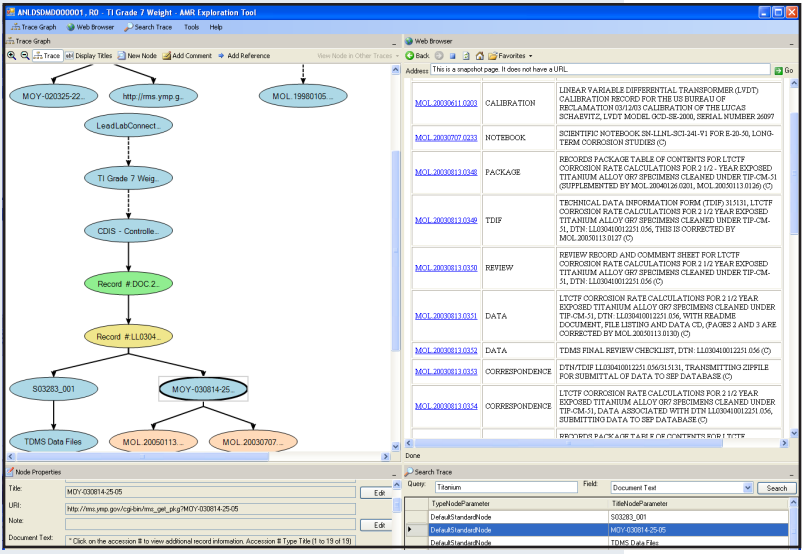


Data Trace Tool

Data Trace Tool (DTT) records a graphical depiction of an Internet search or traversal through an electronic document set. Researchers involved in extensive searches of source material can use the DTT to visually record the websites they have accessed, annotating points of interest along the way. DTT can automatically create maps for analysts as they manually search and relate documents entrenched in large data sets. These DTT maps can be archived, edited, shared, and extended as research is furthered by an individual or a team. Graphs can also exported to Microsoft Excel for further analysis.

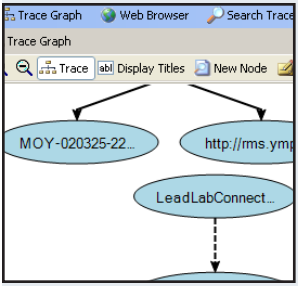
Capturing the visual pathways of electronic data searches provide snapshot views for researchers and analysts to record their research processes.

System Requirements

- Microsoft® Windows®
- Microsoft® Internet Explorer

Trace Map Creation

The DTT trace map is created in real-time, adding websites accessed by the researcher as map nodes. The map is built to represent both breadth and depth searches. Nodes can be customized to represent data from specific locations, and metadata can be added to enrich the map's content.

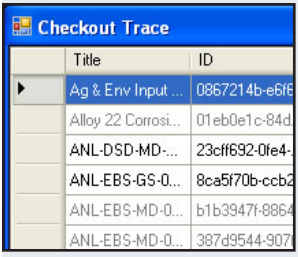


Trace Map Editing

Users can edit trace maps by renaming existing nodes, adding explanatory notes, and drawing new connections between nodes to show relationships that weren't found through their browsing sesison. New nodes and links can be added to represent additional data sources including those accessed off-line such as hard copies of files. Users can also trim trace maps, customizing their presentation to embed them in documents and project reports.

Team Collaboration

DTT maps can be stored in a common database for retrieval by others, and includes a basic editing mechanism for version control. Team members can access the maps for information, embed them into other traces, and further them to extend a research effort.



Applications

The DTT is used by Sandia National Laboratories and DOE to visually represent relationships between models, data, and documentation. Analysts relate parameter data to source documents integral within a large, multi-faceted document set. The traces developed are shared within a team environment, increasing efficiency of the data traceability tasks.

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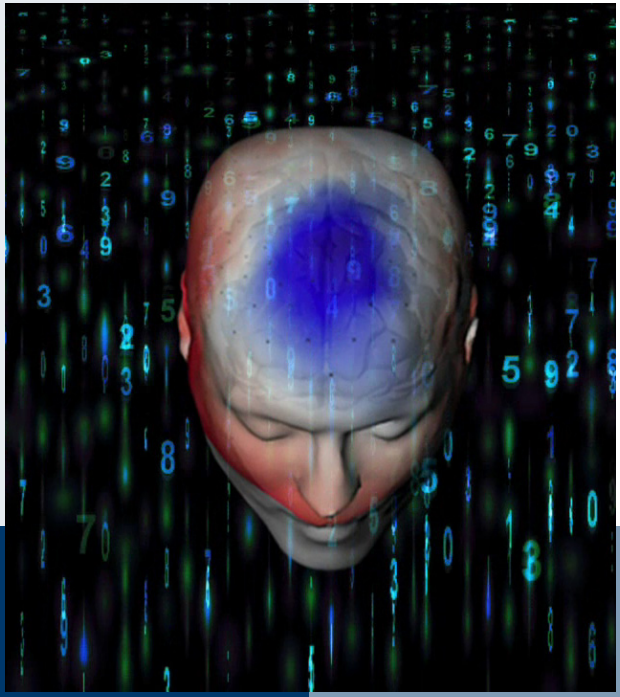

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Sounding Board

Sounding Board queries models that represent subject matter experts to discover their contextual knowledge and explore their related interests.

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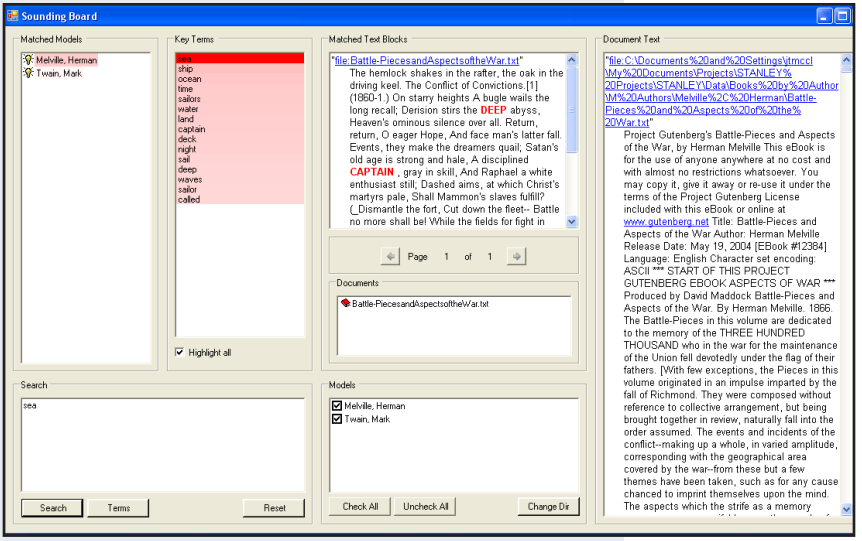


Sounding Board

Sounding Board uses models based on document sets that represent a person or subject area. Sounding Board searches these models to reveal a statistical analysis of their content and the subject area of their compositions, and provides direct access to documents used in the analysis. Submitting a text query to Sounding Board simultaneously to multiple chosen models allows for explorations of differing or similar subject areas. Sounding Board compares the free-text query to each model and displays the appropriate models that are most relevant to the query, ranking them by order of relevance.

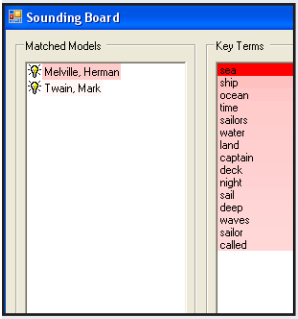
Sounding Board can direct you where to look or who to ask about a topic of interest.

System Requirements

- Microsoft® Windows®
- Sandia National Laboratories Analyst Aid

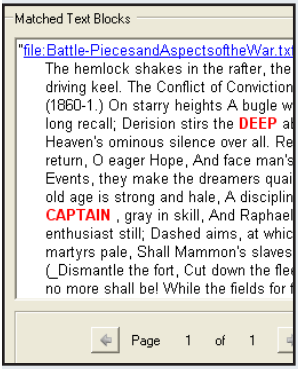
Knowledge Exploration

Sounding Board enables users to explore various document sets using models that represent individuals or subject areas to identify areas of expertise and overlaps in subjects of interest. Users explore these models to compare and contrast contextual similarities, identify knowledge areas, or to locate information.



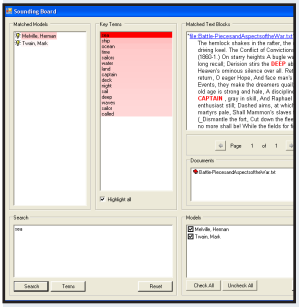
Knowledge Sharing

With Sounding Board, users can easily access expert knowledge and resources from a desktop computer to assist new hires, team members, and other staff needing access to knowledge. Users can explore profiles of retired employees, experts in the field, and archived document sets to gain access to knowledge when these resources are not readily available.



Usability

Sounding Board's user interface is encapsulated in one easy to use window. Model information including key terms of interest, text blocks, document names, and document text is displayed alongside a query text box to search the models, so users can easily find the information they need.



Applications

Sounding Board is used by Sandia National Laboratories to identify document sets relevant to a particular query, discover related terms within a context, and locate areas within a document that uses specific terms or phrases.

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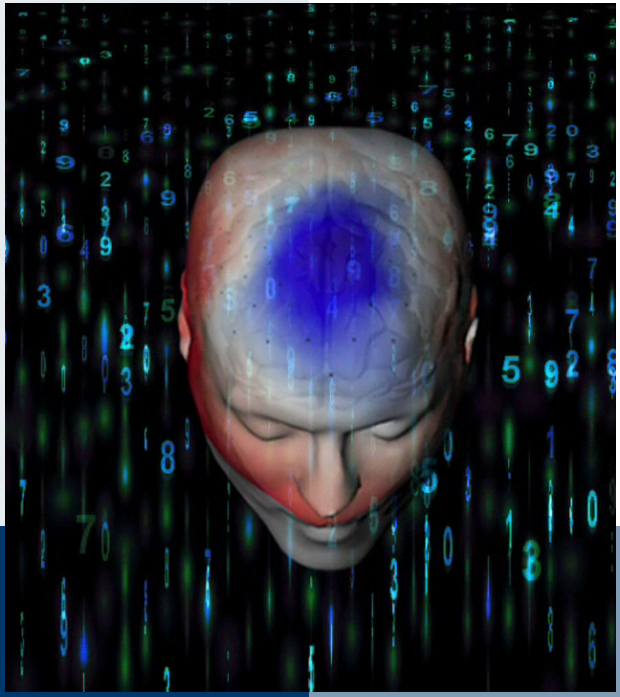

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Navigator

Navigator enables analysts to quickly identify complex relationships among documents and to display those relationships graphically.

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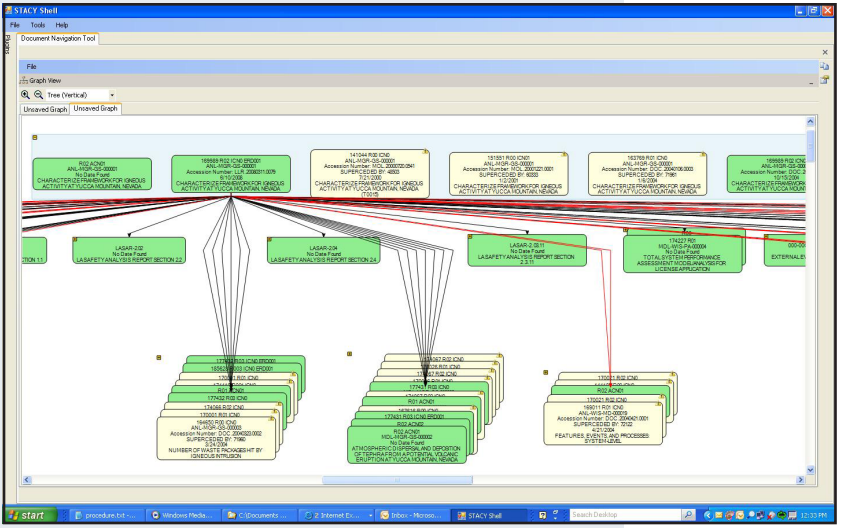


Navigator

Documents in large collections often relate to one another in various ways, though these relationships are not always easy to understand. Navigator helps analysts quickly understand document relationships by creating diagrams that show how they interrelate.

Navigator allows analysts to:

- Specify various sources for documents.
- Select the documents and the types of relationships to analyze and diagram.
- Filter the displayed results based on user-defined criteria.

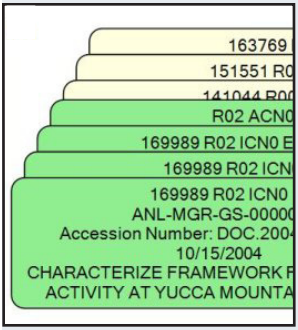
Impact Analysis:
By using Navigator, analysts can quickly create diagrams that show how changes to some documents may affect other related documents.

System Requirements

- Microsoft® Windows®
- Microsoft® Internet Explorer

Documents and Data Sources

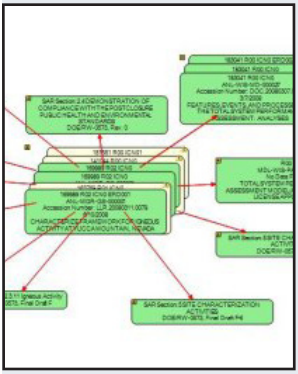
Navigator can obtain documents from various sources, including relational databases, HTTP and FTP Internet sites, file systems, and analytical models. Navigator can also accomodate various types of document formats, including but not limited to Microsoft® Office, PDFs, web pages, and XML.



Document Searches and Analysis

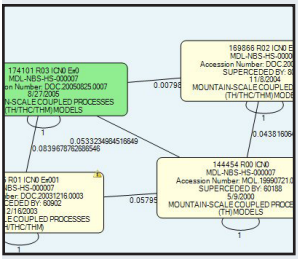
Navigator allows analysts to:

- Specify the properties of directional searches, such as depth, direction, and scope.
- Search document contents and metadata with simple or advanced queries.
- Access documents directly by clicking on diagrams.
- Export analysis results to Microsoft® Excel® spreadsheets.



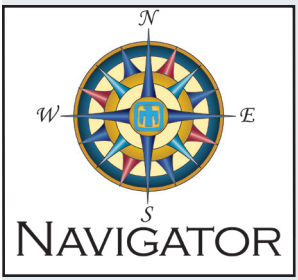
Customizable Diagrams

Navigator diagrams are easy to manipulate. Analysts can control how Navigator generates and displays diagrams by choosing various layout options and filters, and are able to customize these graphs by grouping, rearranging and pruning elements.



Applications

Navigator is used by Sandia National Laboratories to quickly and comprehensively identify related documents, as well as document types, across multiple databases. As analysts prepare to modify a document, Navigator can help them to identify the other documents that might be effected by the change.



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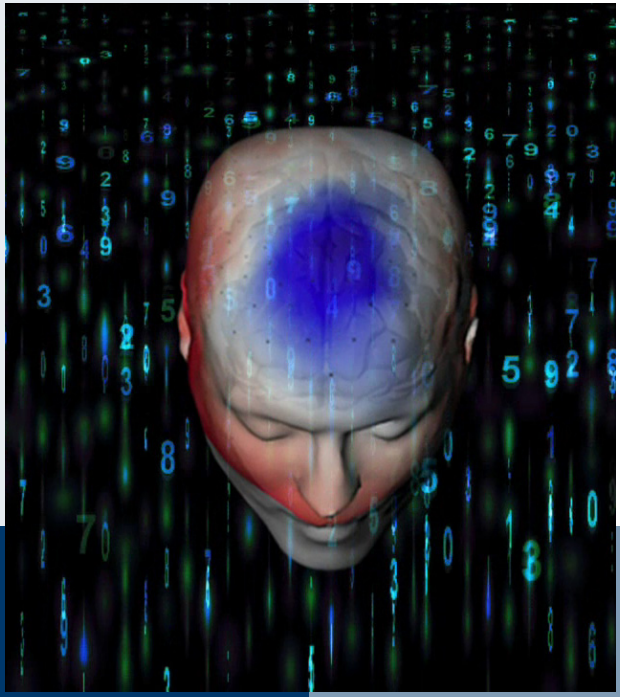

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