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Battelle Number(s):

13557-E

Available for licensing in all fields

Awards Won:

R&D 100 Award - 1996

Available Technologies

IN-SPIRE™ Software

SUMMARY

There is too much information and too little time available to spend wading through the volumes of electronic text that are available in most domains. While information retrieval systems can provide information relevant to defined searches, they do not support users in identifying important features, trends, or interrelationships.

IN-SPIRE™ is a visual analytics system for the analysis of text, providing tools for users to discover unknown themes, events, and trends within textual information, as well as search for known items of interest. Through visual representations of information, users can rapidly explore associations among individual terms, broader topics, or defined groups within their sources of information. IN-SPIRE™ includes features for analyzing text from a variety of data sources such as technical and patent literature, marketing and business documents, web data, accident and safety reports, newswire feeds and e-mail message traffic.

Some of IN-SPIRE's nearly limitless application possibilities include:

- * Performing competitive analysis of market trends
- * Reviewing corporate data for strategic planning
- * Assessing laboratory results in medical research
- * Achieving quick document discovery in litigation situations
- * Reviewing broadcast and print news for competitive intelligence or assessments
- * Managing intellectual assets

ADVANTAGES

- * Allows the user to easily identify themes, trends, events and relationships among these in huge volumes of text
- * Includes temporal analysis tools which allow the user to discover unexpected



terms that are prominent among data and potentially point to significant or unanticipated events

- * Increases the amount of information a person can work with at one time
- * Reduces the time necessary to review and analyze a collection of data
- * Allows users to efficiently drill down through multiple facets whether derived computationally or defined as structured fields within the text.

STATE OF DEVELOPMENT & AVAILABILITY

IN-SPIRE™ incorporates several features that are based on technologies developed at PNNL including Galaxy and ThemeView™ visualization tools.

The Galaxy visualization tool uses the image of stars in the night sky to represent a set of documents. Each document is represented by a single “docustar.” Closely related documents cluster together while unrelated documents are separated by large distances. Several analytical tools are provided with Galaxy visualization allowing users to investigate the document groupings, query the document contents, and investigate time-based trends.

With ThemeView™ visualization, the topics or themes within a set of documents are shown as a relief map of natural terrain. The mountains in the ThemeView indicate dominant themes. The height of the peaks indicates the relative strengths of the topics in the document set. Similar themes appear close together, while unrelated themes are separated by larger distances. ThemeView provides a visual overview of the major topics contained in a set of documents. Combined with its exploration tools, ThemeView permits the analyst to identify unanticipated relationships and examine changes in topics over time.

Additional visualizations beyond Galaxy and ThemeView are currently incorporated into IN-SPIRE, and significant technology enhancements to its graphical user interface, analytical intelligence, and visualization capabilities continue to be made.

Technology Portfolio(s)

- » Information Analytics and Visualization

Potential Industry Applications

- » Aerospace & Defense
- » Agriculture & Mining
- » Automotive & Transportation
- » Chemicals
- » Communications & Media
- » Computers & Electronics
- » Consumer Products
- » Education
- » Energy & Utilities
- » Entertainment & Recreation
- » Fabric & Apparel
- » Food, Beverage & Tobacco
- » Healthcare, Pharma, Biotech & Medical
- » Manufacturing & Warehousing
- » Oil & Gas
- » Professional Services
- » Public Administration & Government
- » Recycling & Waste Management
- » Security
- » Wood, Paper & Forestry

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