vantagepoint

What is VantagePoint?

VantagePoint is desk top Text Mining Software for Discovering Knowledge in virtually any Structured Text Database

Why Text Mining?

Welcome to the age of too much information.

We can now easily retrieve far more relevant information than is humanly possible to read.

But if we want to use all this information, what do we do?

- Change our perspective on text-based information.

- Get away from our "need to read"

- Treat *text* as DATA

- Use data mining techniques to analyze text

When does Text Mining Work?

- When what you seek is a pattern -- not a specific document
  - There is a distinct difference between "search and retrieval" and "text mining"
- When your information is available in electronic machine readable form
- When your electronic information is accessible via bulk download

What does Text Mining give us?

Since text mining allows us to use computers to "read" the information, we can digest far more information than we could before.
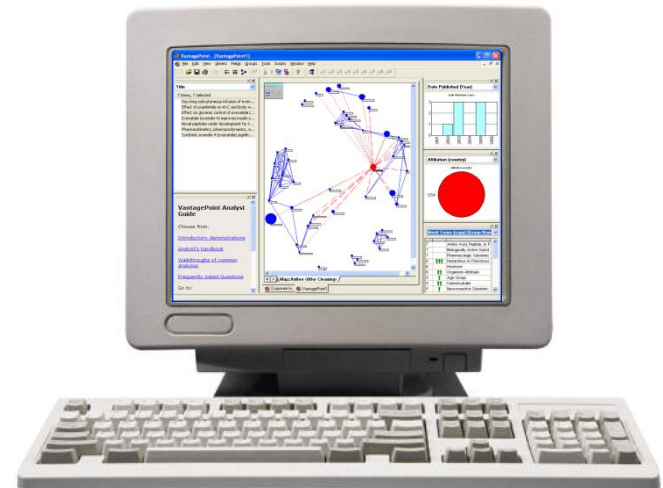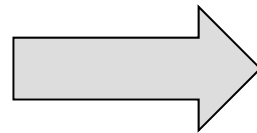
What are Patterns in Text?

Patterns in text are the relationships between words or phrases that repeat across many different documents.

For example, if one document mentions "sodium chloride" and "salt" and then another document mentions "sodium chloride" and "salt" and then another and another etc... You begin to assume that "sodium chloride" and "salt" are related.
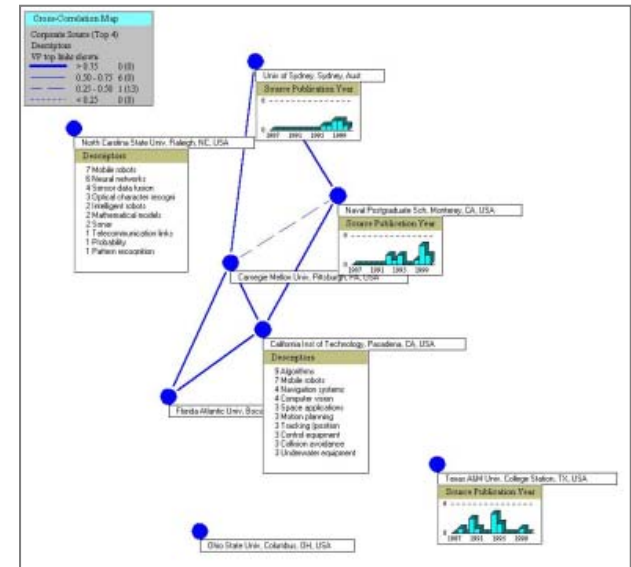
How do we find a pattern?

Use Co-word Bibliometrics/Co-occurrence statistics to find relationships

- Count the number of times words appear together in a set of documents
- The higher the co-occurrence, the stronger the potential relationship

Word 1 ⟷ **Word 2**

Patterns have Meaning

Patterns that we find represent higher order abstractions within the large text collection.

- In our salt example, we can induce that Sodium Chloride is a salt
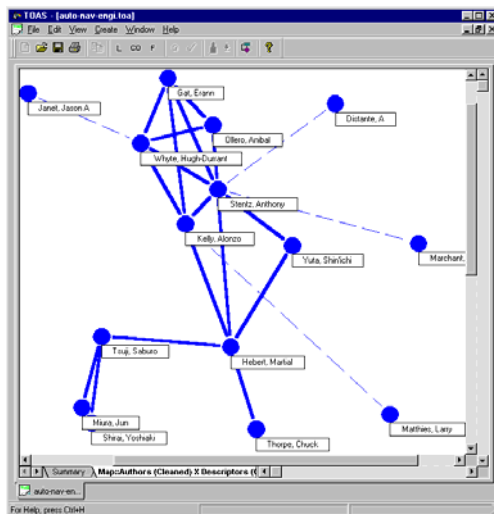
→ **Meaning**

The Big Why

Patterns

=

Knowledge

How does VantagePoint work?

- On-Line Hosts
- Internal Databases

Query

Download

Search Results

Import

1. Search for information in your structured text databases
2. Download your search results
3. Import the search results into VantagePoint
4. Use VantagePoint to discover patterns within the search results
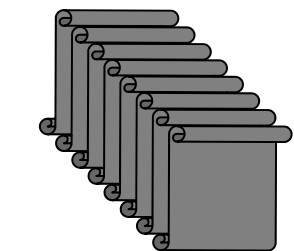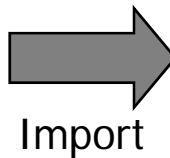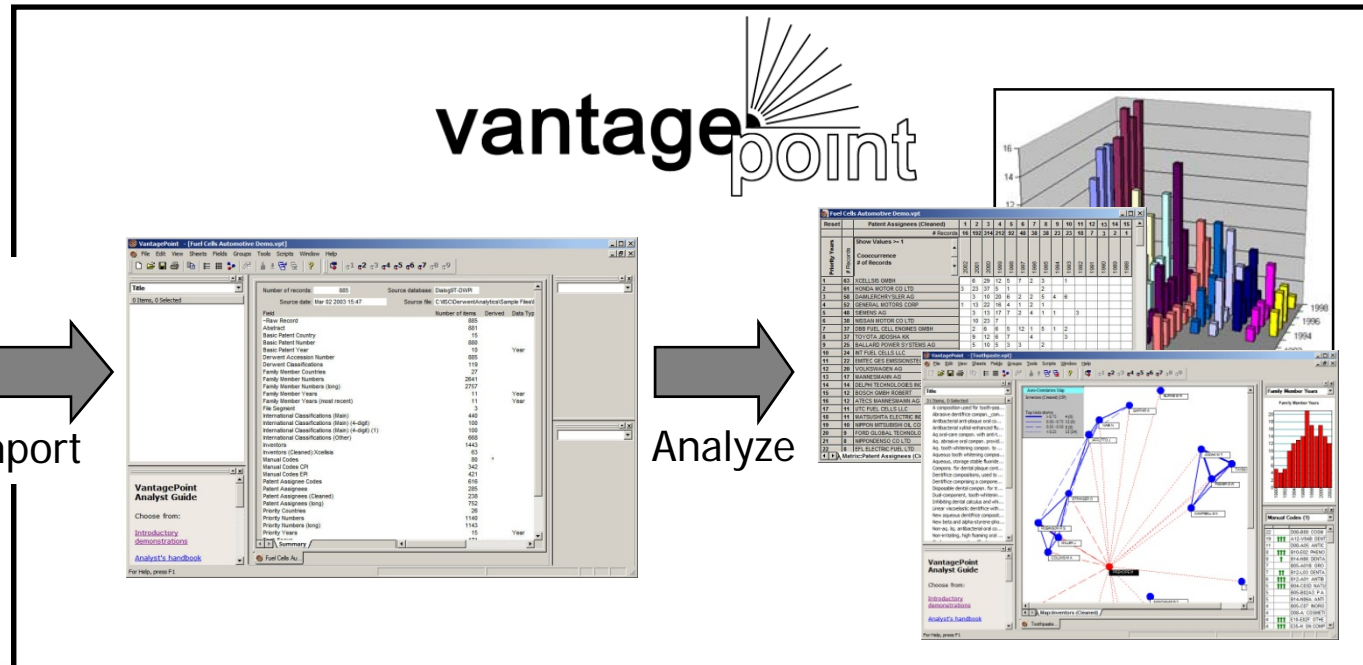
vantage point

Analyze

What can you do with VantagePoint?

- Analyze Information
- Map Relationships
- Identify Trends
- Develop Indicators
- Automate Your Analysis

- **Discover Knowledge**
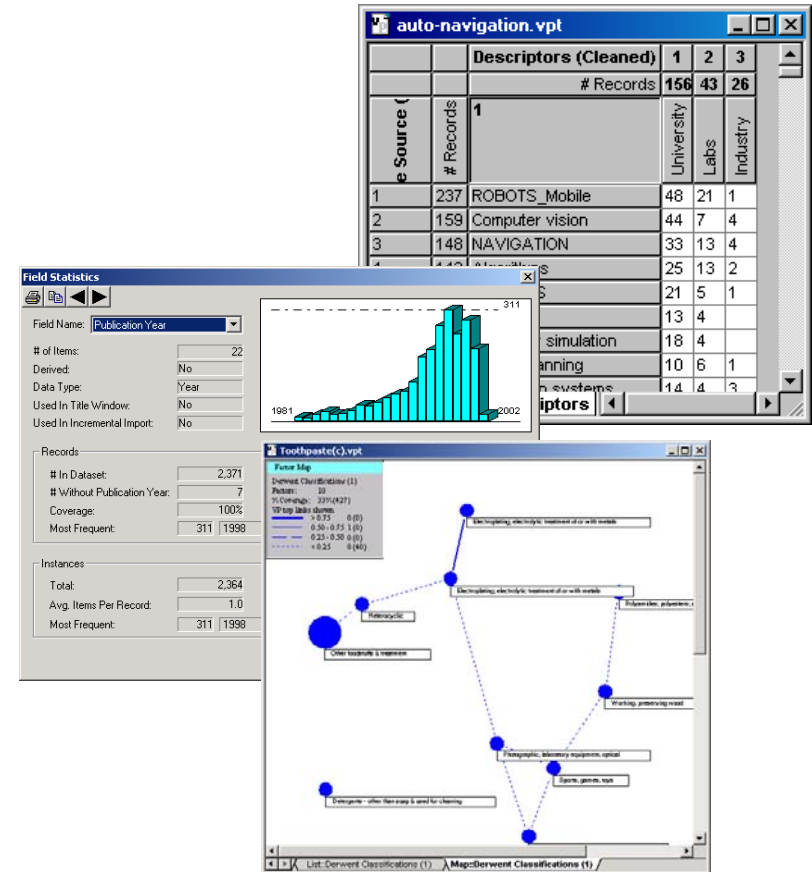
VantagePoint Toolset

VantagePoint has several powerful tools to help the user analyze text
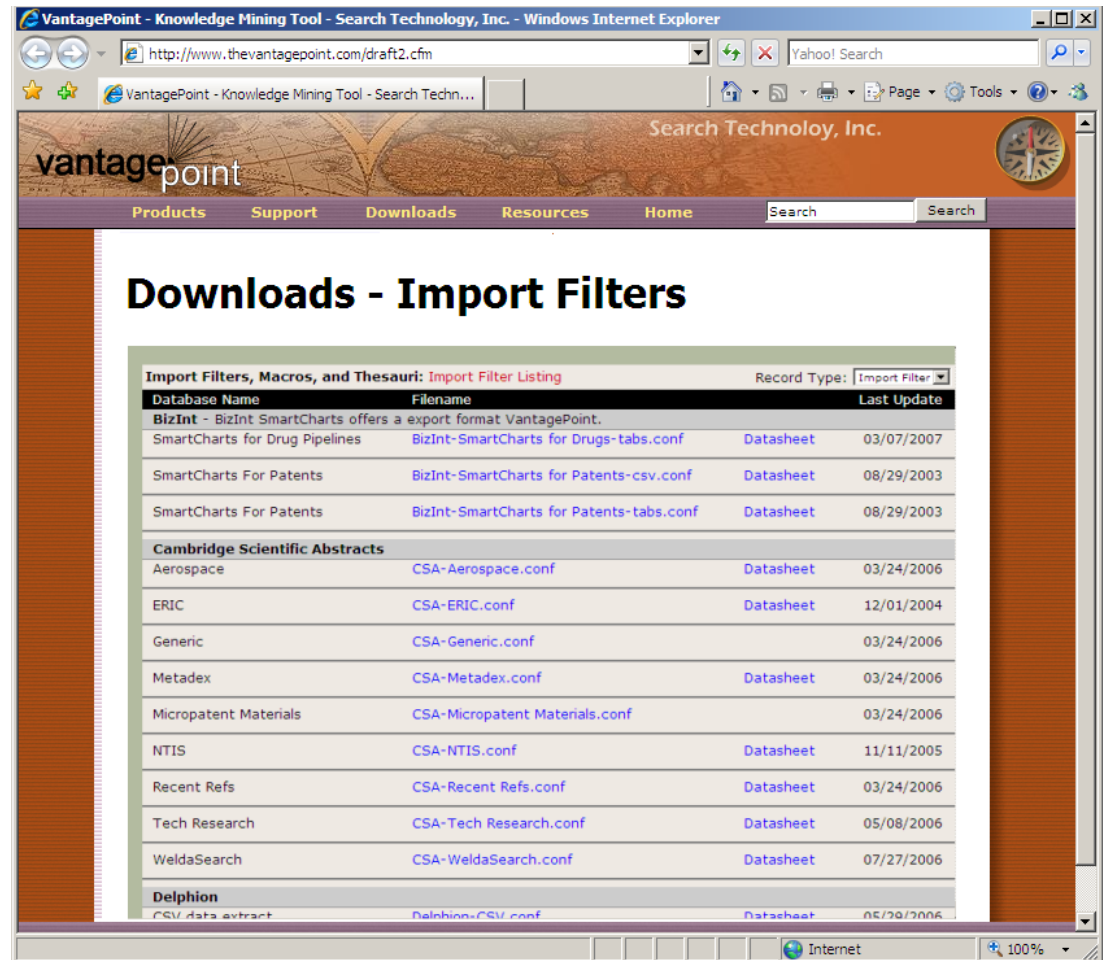
- Data Cleaning
- User Defined Thesaurus
- Visual Basic Scripting
- Import Engine adaptable to hundreds of databases
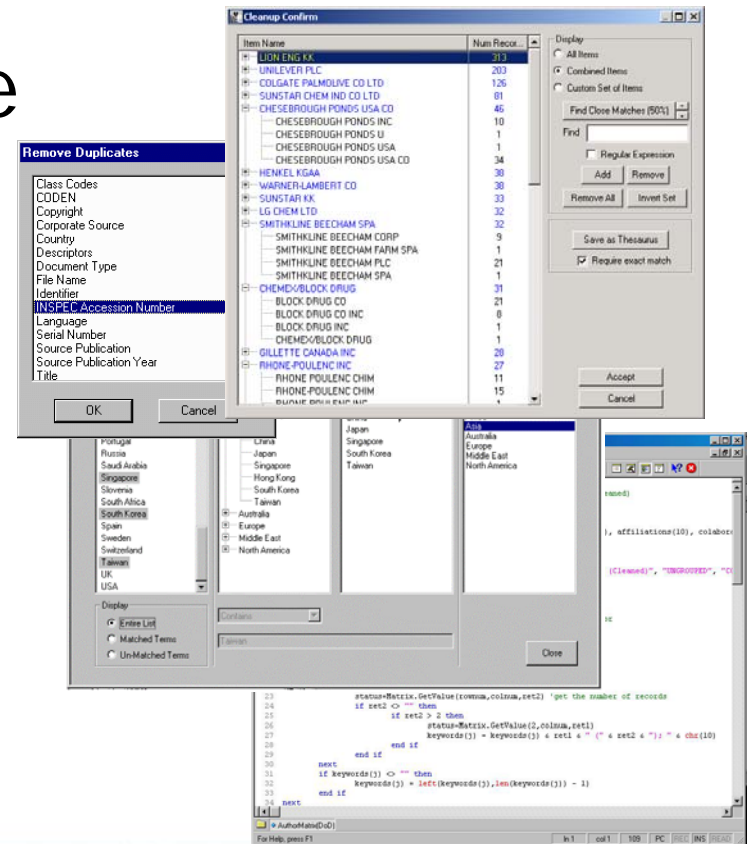
On-Line Resources

Download …

- Import Filters
- Macros/Scripts
- Thesauri
- Fuzzy Match Rulesets
- White Papers

What kind of questions can we answer with VantagePoint?

Who?

Where?

What?

When?

… and with the help of a subject matter expert

How?

Why?

So… Using combinations of Who, What, When and Where we can…

Easily find linkages….

Discover Knowledge Networks…
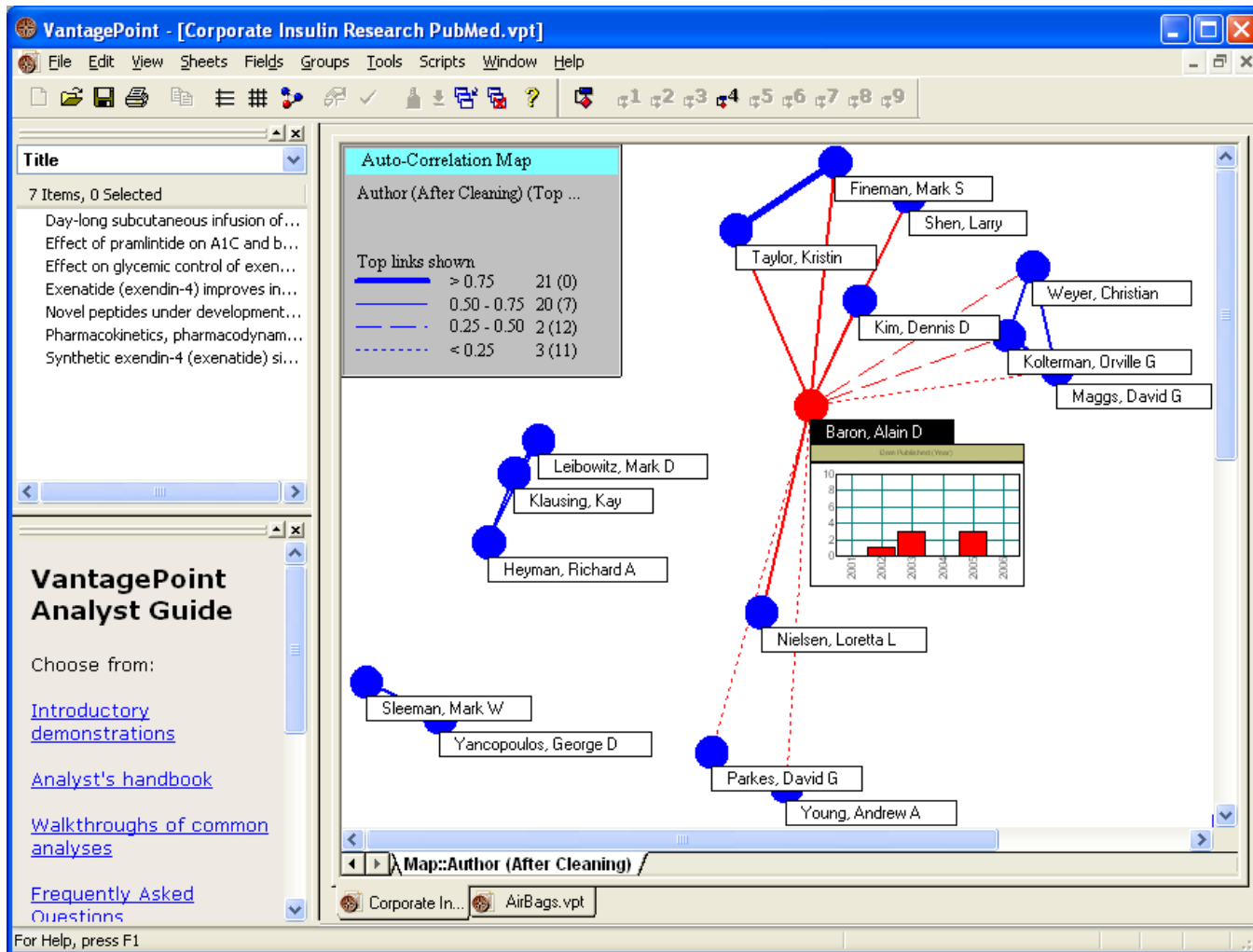
Identify Trends…
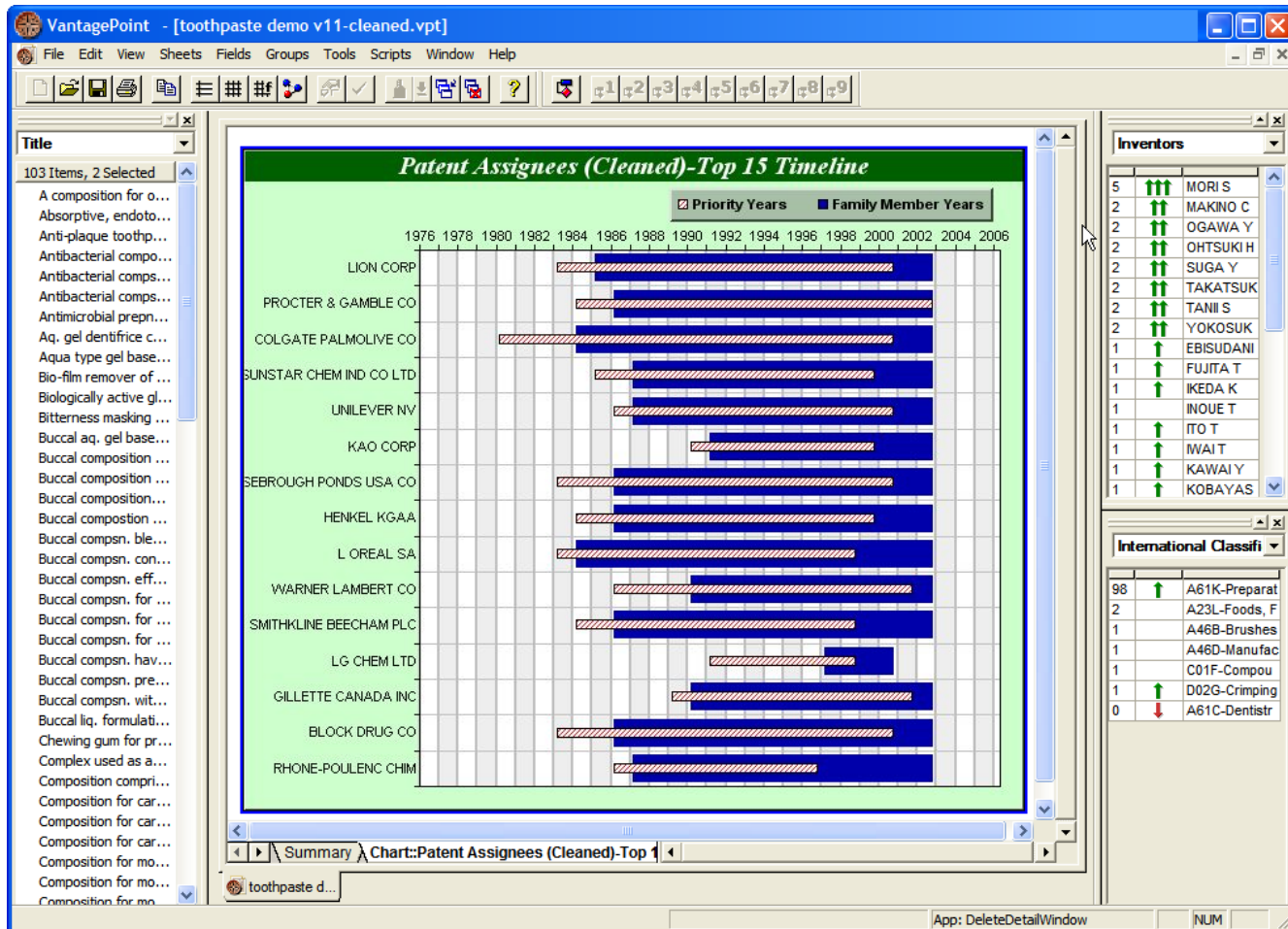
Develop Indicators….

What Questions should I be able to answer using VantagePoint?

Top Researchers

Top Organizations

Time Trends

What Questions should I be able to answer using VantagePoint?
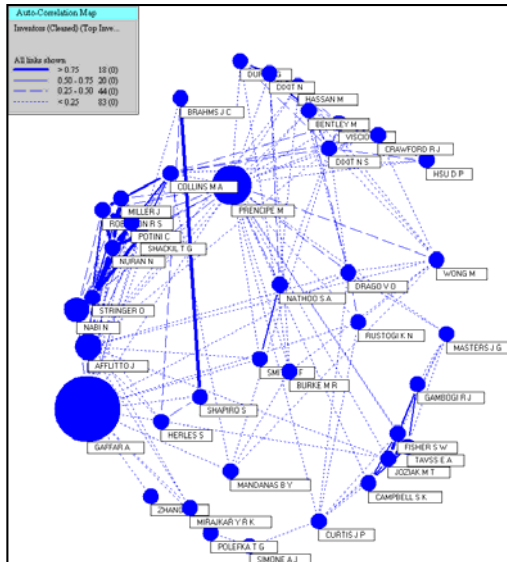
Knowledge Networks

Organizational Strengths

Profiles

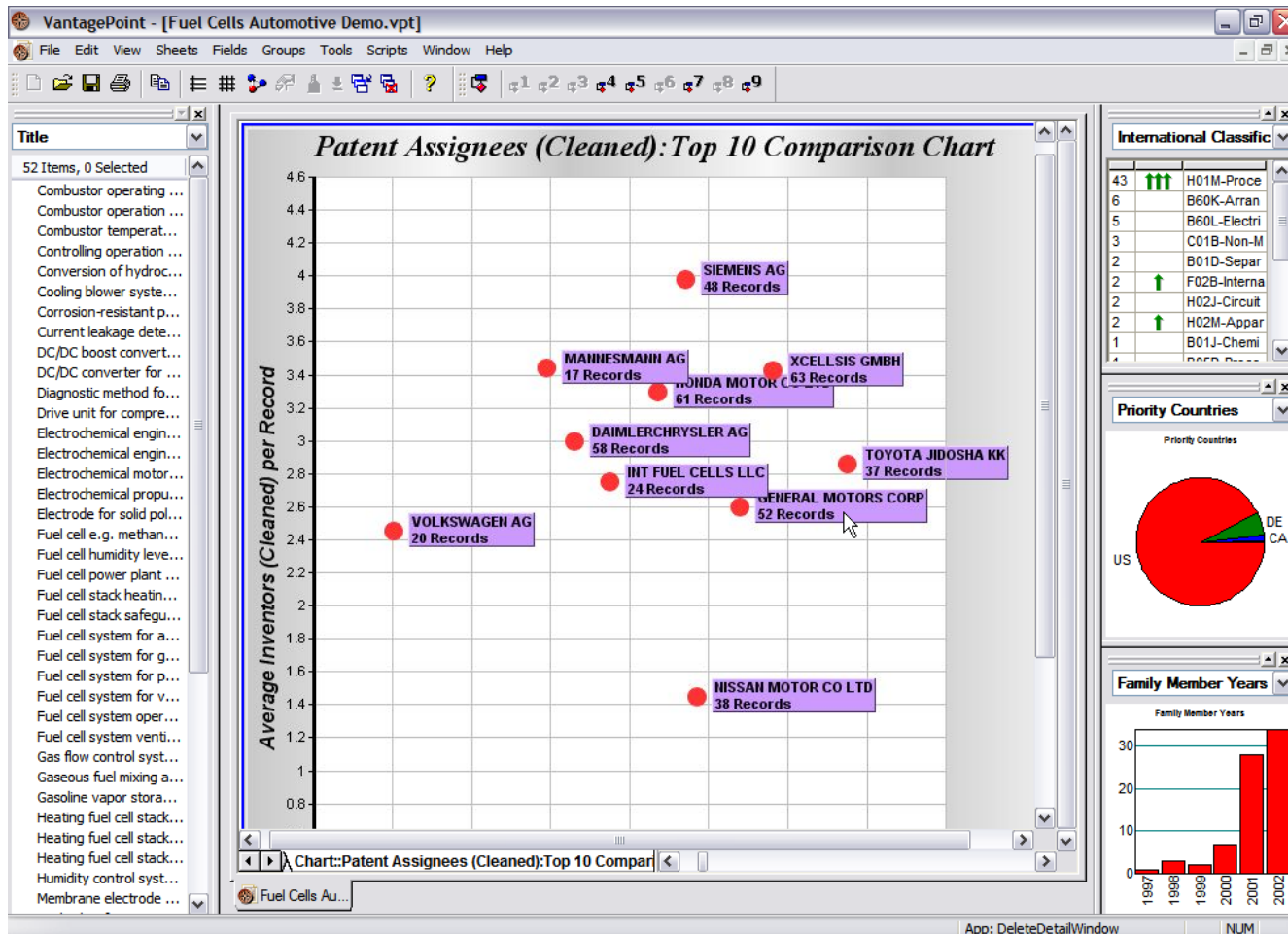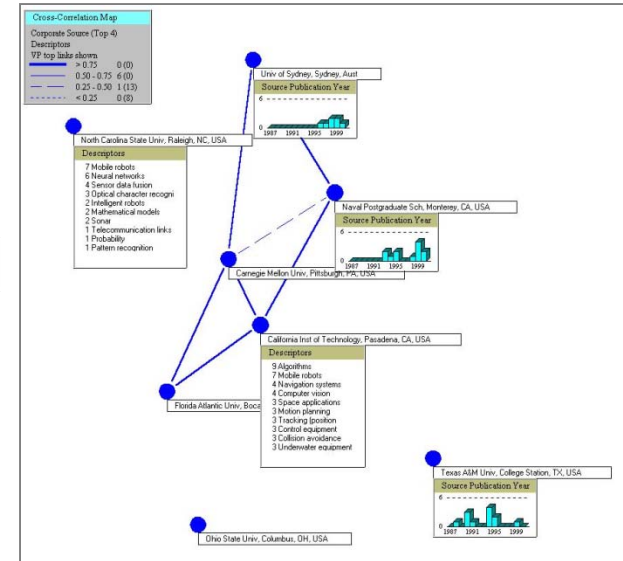| Corporate Source	Author	Descriptors	Journal Name
Top 4	Top Terms	Top Terms	Top Terms
Carnegie Mellon Univ, Pittsburgh, PA, USA[23]	Stentz, Anthony [7]; Kelly, Alonzo [5]; Hebert, M [3]	Navigation [13]; Mobile robots [12]; Computer vision [7]; Collision avoidance [6]	Proceedings - IEEE International Conference on Robotics and Automation [6]; Proceedings of SPIE - The International Society for Optical Engineering [3]; Robotics and Autonomous Systems [2]; Autonomous Robots [2]
California Inst of Technology, Pasadena, CA, USA[16]	Matthies, Larry [3]; Tunstel, Edward [2]; Laubach, S.L [2]	Algorithms [9]; Mobile robots [7]; Navigation systems [4]; Computer vision [4]	Proceedings - IEEE International Conference on Robotics and Automation [3]; Proceedings of SPIE - The International Society for Optical Engineering [2]; Automatica [2]; Proceedings of IEEE International Symposium on Computational Intelligence in Robotics and Automation, CIRA 1997 [1]
Naval Postgraduate Sch, Monterey, CA, USA[12]	Kang, W [2]; Xi, N [2]; Kaminer, Isaac [2]	Algorithms [6]; Mathematical models [5]; Sensors [4]; Motion control [3]	IEEE Conference on Control Applications - Proceedings [2]; AIAA/IEEE Digital Avionics Systems Conference - Proceedings [1]; Dynamics and Stability of Systems [1]; Proceedings of the IEEE Conference on Decision and Control [1]
Texas A&M Univ, College Station, TX, USA[12]	Kehtarnavaz, N [6]; Kehtarnavaz, N.D [3]; Griswold, N. C [2]	Navigation systems [5]; Vehicles [4]; Steering [2]; Error analysis [2]	Proceedings of SPIE - The International Society for Optical Engineering [3]; Intelligent Vehicles Symposium, Proceedings 1994 [1]; Record - IEEE PLANS, Position Location and Navigation Symposium 1994 [1]; IEEE International Conference on Image Processing [1]

What Questions should I be able to answer using VantagePoint?
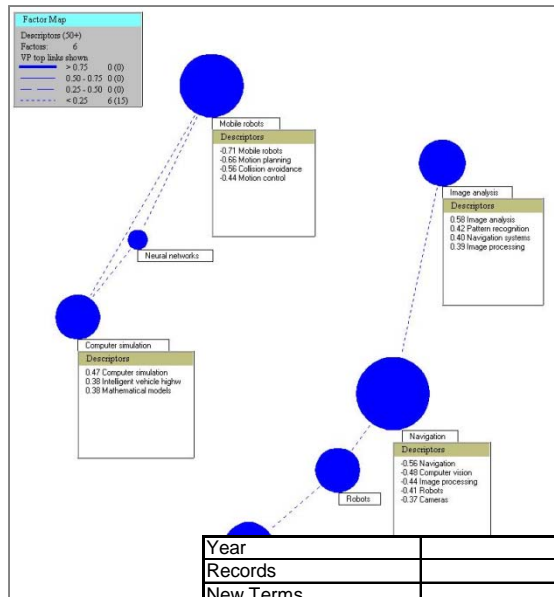
Clusters

Interactive Visualization

Concept Migration

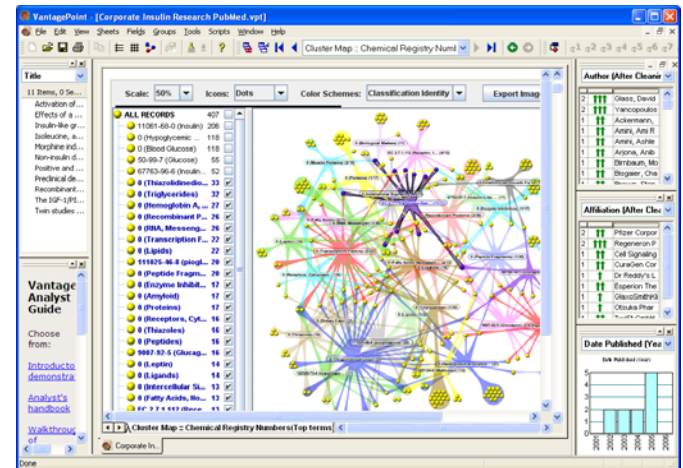| Year	1998	1999	2000	2001
Records	94	101	101	78
New Terms	50	53	59	54
New Terms (normalized)	50	49.32673267	54.91089109	65.07692308
	Acoustic devices [3 of 3]	Wavelet transforms [2 of 2]	Unmanned vehicles [3 of 11]	Remotely operated vehicles [12 of 13]
	Pattern matching [2 of 8]	World Wide Web [2 of 2]	Motion estimation [3 of 4]	Bombs (ordnance [3 of 3]
	Martian surface analysis [2 of 2]	Web browsers [2 of 2]	Uncertain systems [3 of 5]	Radar antennas [1 of 1]
	Personal computers [2 of 5]	Arid regions [2 of 2]	Internet [3 of 3]	Radio systems [1 of 1]
	Backpropagation [2 of 3]	Visualization [2 of 2]	Ordinary differential equations [2 of 2]	Safety devices [1 of 1]
	Electrostatics [2 of 3]	Tracking radar [2 of 2]	Multiplexing [2 of 2]	Monolithic microwave integrated circuits [1 of 1]
	Jamming [1 of 2]	Graphical user interfaces [2 of 6]	Handicapped persons [2 of 2]	Semantics [1 of 1]
	Mine trucks [1 of 3]	Radar target recognition [2 of 2]	Theorem proving [1 of 1]	Receiving antennas [1 of 1]
	Ordnance [1 of 1]	Information retrieval [2 of 3]	Traffic surveys [1 of 2]	Redundant manipulators [1 of 1]
	Optical beam splitters [1 of 1]	Nonlinear filtering [1 of 1]	Autonomous agents [1 of 4]	Railroad tracks [1 of 1]
	Ballast tanks [1 of 1]	Antenna arrays [1 of 2]	Maximum likelihood estimation [1 of 1]	Vector quantization [1 of 1]

When you master VantagePoint, you can…

Quickly Discover Knowledge

Build Analytical Machines

The Payoff from using VantagePoint

- Better informed technology management
- Faster decisions and better results
- Competitive Advantage

Contacts

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