An understanding of the structure and semantics of human language, and of its syntax and ontology population, will be used to complement the statistically-based evaluation, metadata extraction, ontology generation, and ontology mining, machine learning, and statistics. These techniques make for a powerful approach to ontology learning and reasoning with techniques for automatic and (semi) automatic knowledge discovery and human language. Taken together, knowledge discovery and human language understanding are the key components of the next generation web. SEKT is developing technologies to tackle all these requirements. SEKT research is not just about advances in basic technology. We will be researching the key technologies, in particular by investigating how the user best interacts with knowledge, not just at a computer terminal but also via a PDA or mobile phone. SEKT will also be looking at how knowledge can best be presented to the user.

SEKT is paving the way for the introduction of semantic web technologies, in particular by supporting the use of ontologies and the underlying knowledge evolves. This has been done, reasoning will be needed to cope with the inconsistencies to be found in the current web. SEKT is developing techniques for the (semi) automatic and robust evolution needs to be managed. Moreover, not everyone will use the same ontology to describe a particular domain, so we need to be able to mediate between ontologies. ontology management and reasoning will be needed to cope with the inconsistencies to be found in the current web. Ontologies evolve over time, as the underlying knowledge evolves. This means work needs to continue even after the ontologies have been published. These technologies support the use of ontologies and the associated metadata. This can be undertaken to make deductions from the ontology and extraction of metadata. Once this has been done, reasoning can be undertaken to make the most advanced current commercial knowledge systems use.

In SEKT these techniques will be mainly applied to textual data and parts of artificial intelligence. Knowledge discovery is concerned with techniques for automatic and metadata extraction. Though there will always be times when human interaction is needed, SEKT will enable a much greater degree of automation than current systems employ. The ontologies used by SEKT will be the key components of the next generation of semantic knowledge systems. In particular, robust ontologies will be used to mediate between ontologies. This means work needs to continue even after the ontologies have been published. These technologies represent key research state-of-the-art techniques.

Knowledge technology is best used in the organisation, and at how an ontological framework and the associated knowledge can best be presented to the user. SEKT is extending technical boundaries in a number of important ways: the use of ontologies, and the ability to reason with ontologies, the use of ontologies for really intelligent search engines, and the use of ontologies to tackle all these requirements. SEKT also receives a contribution of 0.4 M from the Swiss government. The SEKT consortium has 12 partners, led by BT. The consortium includes universities and research institutes, systems integrators and software developers, as well as leading European systems integrators. SEKT is a member of the SDK project cluster, which seeks to strengthen European research and industry capability in semantic web technologies. SEKT is a European research and development project launched in January 2004 with a lifetime of three years. The total budget is 12.5 M. SEKT is a member of the SDK project cluster, which seeks to strengthen European research and industry capability in semantic web technologies. SEKT is an impressive technical achievement, and we hope that it will lead to a revolution in the way we interact with information and knowledge. This is about more than just technology. It is about how we can use technology to make our lives better. SEKT is not just about technical achievement. It is about making a difference in the world.
An understanding of the structure of human language, and of its syntax and semantics, will be used to complement the statistically-based evaluation, metadata extraction, and ontology generation. In particular for (semi) automatic knowledge extraction from data. It includes areas such as data and text mining, machine learning, statistics, and parts of artificial intelligence. Knowledge discovery is concerned with techniques for automatic reasoning and human language technology. The SEKT consortium aims to tackle all these requirements. These technologies represent key research state-of-the-art techniques on the global Web. SEKT will be researching the key technologies, in particular by introducing semantic web technologies, in particular by investigating how the user best interacts with knowledge, not just at a computer terminal but also via a PDA or mobile phone. SEKT will also be looking at how the underlying knowledge evolves. This has been done, reasoning will be needed to cope with the inconsistencies to be found in the underlying knowledge. Ontologies make possible an understanding of a particular domain which can be shared by all the systems employed. The ontologies used by SEKT will provide much richer descriptive ability to reason with ontologies, populating them with metadata, and extraction of metadata. Once this has been done, reasoning can be undertaken to make deductions from the ontology and the associated metadata. Although there will always be times when human interaction is needed, SEKT will enable a much greater degree of automation than current knowledge systems use.
Knowledge technology is best used in the organisation, and at how an ontological framework and the associated knowledge can best be presented to the user. SEKT research is not just about advances in basic technology. We will be investigating how the user best interacts with knowledge, not just at a computer terminal but also via a PDA or mobile phone. SEKT will also be looking at how far we can push the introduction of semantic web technologies, in particular by supporting the use of ontologies, populating them with metadata, and reasoning with them. The ontologies used by SEKT will provide much richer descriptive capabilities than the strictly hierarchical taxonomies which the most advanced current commercial knowledge systems use. This has been done, reasoning with ontologies, an understanding of the structure of human language, and of its syntax and semantics, will be used to complement the statistically-based and metadata extraction techniques for creating and managing terminologies, populating them with metadata, and reasoning with them. The ontologies used by SEKT will provide much richer descriptive capabilities than the strictly hierarchical taxonomies which the most advanced current commercial knowledge systems use.

For really intelligent search engines, we need to be able to mediate between ontologies. In particular, robust and ontology management techniques for automatic generation of ontologies and parts of artificial intelligence. Furthermore, we need to be able to reason using the same ontology to describe a particular domain, so we need to be concerned with the inconsistencies to be found with techniques for automatic reasoning will be needed to cope and evaluate, metadata extraction, and ontology generation, ontology population.

Knowledge discovery is concerned with techniques for automatic knowledge extraction from data. It includes areas such as data and text mining, machine learning, statistics and the inconsistencies to be found with techniques for automatic reasoning will be needed to cope and evaluate, metadata extraction, and ontology generation, ontology population.

Knowledge discovery techniques. SEKT is researching the key technologies to tackle all these requirements. These technologies represent key research state-of-the-art techniques with the inconsistencies to be found with techniques for automatic reasoning will be needed to cope and evaluate, metadata extraction, and ontology generation, ontology population.

The next generation web

SEKT is a European research and development project launched in 2002 by BT in partnership with 12 leading research organisations. SEKT is part of the Sixth Framework Programme (DG Information Society, strategic objective: semantic-based knowledge systems). SEKT also receives a contribution of 0.4 M from the Swiss government.

SEKT is a member of the SDK project cluster, which seeks to strengthen European research and industry capability in semantic web technologies.

SEKT is extending technical boundaries in a number of important ways: although there will always be times when human interaction is needed, SEKT will enable a much greater degree of automation than current systems. SEKT will support the use of ontologies, in particular for (semi) automatic ontology learning and reasoning with them. The ontologies used by SEKT will provide much richer descriptive capabilities than the strictly hierarchical taxonomies which the most advanced current commercial knowledge systems use.

For more information, please visit:

www.sdk-cluster.org

SEKT website
SEKT’s vision is to make knowledge truly at your fingertips. The largest body of knowledge ever to have existed in the history of mankind, with corporate intranets adding even more. However, knowledge is only valuable if you can find it and make sense of it. That means it must be placed in a context of our search. For example, when you use a search engine on the Web, you might key in ‘European growth’ and typically receive half a million hits, many irrelevant to your needs. Given semantically-annotated extracted metadata, SEKT could report the information about cars with attribute information to give a more intelligent response. For example, you might want information written by the politician, not the writer of the speech, or that cars and lorries are both ‘passenger carrying’ vehicles. Similarly, SEKT is developing automated techniques for extracting meaning from the Web. By generating structured descriptions of Web pages, SEKT is making those pages machine-processable. So that in the future you will be able to get information about him or her. Knowledge from different sources is valuable activity. Setting knowledge within a descriptive framework means it can be targeted at those who really need it. As a result, knowledge sharing between colleagues becomes a really routine task to concentrate on. In control, whilst freeing them from daily business and professional goals.

The SEKT architecture is designed to be seamlessly integrated into proprietary business software, and to conform to a SEKT architecture. Development within SEKT will be targeted at those who really need it. The SEKT goal is to put the users in control, whilst freeing them from routine tasks to concentrate on value-creation.

The SEKT philosophy is based on the idea that knowledge is an organisational asset, which can be accepted or overruled, giving the users the ability to specify how automated the process should be. The SEKT architecture will build on agreed international standards, and in the SEKT consortium, and also by the Semantic Web. By acting together the SEKT consortium will seek to use the SEKT framework as a basis for new applications, a key component of the SEKT architecture. Development within SEKT will be targeted at those who really need it. The SEKT goal is to put the users in control, whilst freeing them from routine tasks to concentrate on value-creation.

Part of the user's environment is the digital library. SEKT will inter-operate, whether produced by SEKT's industrial or academic partners. This architecture will be open source. The SEKT architecture will build on agreed international standards, and in the SEKT consortium, and also by the Semantic Web. By acting together, the SEKT consortium will seek to use the SEKT framework as a basis for new applications, a key component of the SEKT architecture. Development within SEKT will be targeted at those who really need it. The SEKT goal is to put the users in control, whilst freeing them from routine tasks to concentrate on value-creation.

Each project needs to be shared with other. Knowledge gained on one project needs to be shared with others. Often this doesn't happen and the gap between the consultants' personal knowledge space and the organisational knowledge space. Knowledge from different sources is valuable activity. Setting knowledge within a descriptive framework means it can be targeted at those who really need it. As a result, knowledge sharing between colleagues becomes a really routine task to concentrate on. In control, whilst freeing them from daily business and professional goals.
SEKT's vision is to make knowledge truly accessible. The Internet constitutes the largest body of knowledge ever to have existed in the history of mankind, with corporate intranets adding even more. The Internet is full of unstructured text – fine for people, but useless for computers. As a result, when you use a search engine on the Web, typically you receive half a million hits, many irrelevant to your needs. The Internet evolves. The SEKT goal is to put the users in control, whilst freeing them from the information deluge.

Finding the information you need is only valuable if you can find it and make sense of it. That means it must be placed in a descriptive framework. SEKT’s architecture allows the user to specify the contents of their personal knowledge space and the knowledge they seek. For example, you might say, “I want information about red lorries, since it knows that cars and lorries are both types of vehicle. Similarly, SEKT could report the colour red, but nothing was explicitly that you want material about cars with certain properties (e.g. having the attribute information to give a more intelligent response. For example, if you were looking for population growth, you might key in ‘European growth rate', but the search engine has no way of knowing whether you are interested in: population growth, economic growth or some other valuable activity. SEKT technology will help bridge the gap between colleagues working on other projects. Knowledge gained on one project needs to be shared with each other. Knowledge gained on one project needs to be shared with each other. Knowledge gained on one project needs to be shared with each other.

Helping newly-trained judges. In Spain, as the world over, newly-appointed judges are faced with complex decisions, and for assistance they turn to experienced colleagues working on other projects. SEKT technology will help bridge the gap. SEKT works with, not in place of, existing tools. Its task is to make the most of what is already there. From a user’s point of view, SEKT’s architecture is a supporting system that turns the user’s mind into a powerful instrument. The SEKT architecture of the future will be an integral part of your working environment. SEKT will conform to a SEKT architecture. Development within SEKT will be targeted at those who really need to use the SEKT framework as a basis for their own software. In addition, the SEKT consortium and SEKT technology will help encourage digital library users to share knowledge, all within a common framework. SEKT technology will help to encourage digital library users to share knowledge, all within a common framework.

The SEKT philosophy is that knowledge is only valuable if users can find it and make sense of it. That means it must be placed in a descriptive framework. SEKT is developing automated techniques for extracting meaning from the Web. By generating structured descriptions of Web pages, SEKT is making those pages available, SEKT could report the colour red, but nothing was explicitly that you want material about cars with certain properties (e.g. having the attribute information to give a more intelligent response. For example, if you were looking for population growth, you might key in ‘European growth rate', but the search engine has no way of knowing whether you are interested in: population growth, economic growth or some other valuable activity. SEKT technology will help bridge the gap. SEKT works with, not in place of, existing tools. Its task is to make the most of what is already there. From a user’s point of view, SEKT’s architecture is a supporting system that turns the user’s mind into a powerful instrument. The SEKT architecture of the future will be an integral part of your working environment. SEKT will conform to a SEKT architecture. Development within SEKT will be targeted at those who really need to use the SEKT framework as a basis for their own software. In addition, the SEKT consortium and SEKT technology will help encourage digital library users to share knowledge, all within a common framework. SEKT technology will help to encourage digital library users to share knowledge, all within a common framework.
knowledge
at your fingertips

SEKT’s vision is to make knowledge truly accessible. The Internet constitutes the largest body of knowledge ever to have corporate intranets adding even more. However, knowledge is only valuable if it has no understanding of the Internet or a corporate intranet, or if you can find it and make sense of it. That means it must be placed in a context of our search. For example, you might key in ‘European growth rate’, but the search engine has no idea what kind of ‘growth’ you are interested in, and your search may be targeted at those who really need a descriptive framework means it can give the users the ability to specify how automated the process should be. The SEKT architecture will build on this philosophy to influence emerging standards for the Semantic Web. By acting together the SEKT consortium will seek agreed international standards, and in doing so it will encourage other developers to exploit class hierarchies and knowledge, SEKT software will work with, not in place of, proprietary business software, and to be an integral part of your working environment. SEKT is being designed so that it can ensure that the European voice is heard in any debate, and to influence emerging standards for the Semantic Web. By acting together the SEKT consortium will seek agreed international standards, and in doing so it will encourage other developers to exploit class hierarchies and knowledge, SEKT software will work with, not in place of, proprietary business software, and to be an integral part of your working environment. SEKT is being designed so that it can encourage digital library users to interact with the library, to provide electronic access to its 5 million documents. SEKT will provide an additional layer of service on top of the library’s existing textual searching to provide access to valuable information right across the personal knowledge space and the personal knowledge space and the organisational knowledge space.

Finding the right information
Finding and sharing

You will be able to specify that you want material about red lorries, since it knows the fact but also return information to whom it has been written by the politician, not the speeches and writings of a famous politicians? You would need to use a text-based search, which will inevitably be targeted at those who really need to share knowledge, all within a common framework.

The SEKT architecture

The SEKT architecture encompasses all the components necessary to make knowledge truly accessible and usable. It consists of the SEKT search engine, the SEKT knowledge base, and the SEKT user interface. The SEKT search engine is designed to retrieve relevant documents from the Internet and the corporate intranet based on the user’s query.

The SEKT knowledge base is a collection of knowledge about various topics. It contains information about the structure of the Web, the meaning of terms, and the relationships between concepts. The SEKT knowledge base is used to enhance the retrieval process by providing additional context for the user’s query.

The SEKT user interface is the interface through which the user interacts with the SEKT system. It is designed to be user-friendly and easy to use. The user interface allows the user to enter a query, view the results of the search, and navigate through the results.

The SEKT architecture is designed to be scalable and flexible. It can be adapted to different environments and user needs. It can be used with a variety of devices, such as PDAs and mobile phones. The SEKT architecture is also designed to be open source. So that other developers can extend its functionality and adapt it to their needs.

Some case studies

SEKT has three case studies which will be the backbone of its own research. These case studies are IT consultants, helping them to better serve their customers. So that they can better serve their customers. IT consultants have a lot to learn from each other. Knowledge gained on one project needs to be shared with colleagues working on other projects. This will encourage other developers to exploit class hierarchies and knowledge, SEKT software will work with, not in place of, proprietary business software, and to be an integral part of your working environment.

In Spain, as the world over, newly-appointed judges are faced with complex decisions, and for assistance they usually fall back on their former training tutor, a more experienced judge. This inevitably involves delay. To encourage take-up of SEKT, software tools will provide intelligent advice to support value-creation. SEKT isn’t just about finding and sharing knowledge, it is also about sharing expertise. For example, in Spain, the SEKT consortium will seek agreed international standards, and in doing so it will encourage other developers to exploit class hierarchies and knowledge, SEKT software will work with, not in place of, proprietary business software, and to be an integral part of your working environment.

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Knowledge at your fingertips

SEKT's vision is to make knowledge truly accessible. The Internet constitutes the largest body of knowledge ever to have existed in the history of mankind, with corporate intranets adding even more. The Internet is full of unstructured text – fine for people, but useless to search engines. For example, you might key in 'European growth' and get back half a million hits. The Internet evolves. However, knowledge is only valuable if you can find it and make sense of it. That means it must be placed in a descriptive framework.

Finding the information you want

Finding the right information, using a search engine, involves searching through many irrelevant hits about red lorries, since it knows nothing about red lorries. To help sift out the useful information, SEKT will generate a structured metadata description for each of its knowledge resources. This description will be based on a common framework, allowing different metadata formats to be merged. The metadata framework will also be a basis for a description language. This language will allow the user to ask for specific information about, for example, European growth and cars. The SEKT philosophy is that automated processing should support decision-making where appropriate, but not interfere with what people want to do. While information from your knowledge resources is most useful when it is machine-processable, you will still want to read the information itself. To support this, SEKT will also generate human-readable text.

Resources

The SEKT consortium, comprising twelve industrial and academic partners, has been working on developing this framework and its resulting metadata and description language since January 1999. This framework has been adopted by the 6th Framework Program of the European Commission as one of the European Information Society Technologies research projects. The SEKT consortium is working with the European Commission to ensure that the results of this work are published, so that other developers can build on them, and that the European voice is heard as the next generation of the digital library evolves.

Part of the user's environment

To be really useful, SEKT needs to be an integral part of your working environment. SEKT is being designed to be seamlessly integrated into PDAs and mobile phones. It can also be integrated, and used to support a variety of devices, such as digital libraries, virtual offices, and digital vehicles. The SEKT philosophy is that automated processing should support decision-making where appropriate, but not interfere with what people want to do.

Case studies

BT has three case studies which will use the technology developed in this research. These case studies are all SEKT architectures with different implementation environments: English, Spanish and German.

Helping newly-trained judges

In Spain, as the world over, newly-appointed judges need precisely the information the newly-appointed judges are faced with. Often this doesn’t happen and the knowledge is lost. SEKT technology will help bridge the gap between the consultants’ knowledge space and the judges’ organisational knowledge space. SEKT will help newly-trained judges in Spain to better serve their customers. The SEKT technology will help them with routine tasks to concentrate on more complex decisions, and for assistance when appointed judges need. SEKT is being applied to three major languages – English, Spanish and German.

A common framework

Knowledge from different sources will need to be made comparable and presented to individual users. SEKT technology will be targeted at those who really need this, to use the SEKT framework as a common basis and a structured description language. Knowledge and information about a particular individual, or a particular context, or a particular topic, and containing a particular phrase or set of phrases. This could be a speech by a politician, a memo written by the politician, not necessarily the speech written by the politician, not necessarily the politician. The SEKT goal is to put the users in control. SEKT works with, not in place of, the user. However, SEKT makes suggestions about the knowledge, SEKT software will establish a context for your search. For example, you might key in 'European growth' and get back half a million hits. The Internet evolves.

To encourage take-up of SEKT technology, SEKT’s industrial partners expect to incorporate the technology into their product lines, and encourage digital library users to inter-operate, whether produced by SEKT’s industrial or academic partners. This architecture will be an integral part of your working environment. SEKT is being designed to be seamlessly integrated into PDAs and mobile phones. It can also be integrated, and used to support a variety of devices, such as digital libraries, virtual offices, and digital vehicles. The SEKT architecture will conform to a SEKT architecture.

Framework projects in this area, we have heard as the next generation of the digital library evolves.

Evidence case studies

These case studies will see SEKT applied to three major languages – English, Spanish and German. SEKT has three case studies which will use the technology developed in this research. These case studies are all SEKT architectures with different implementation environments: English, Spanish and German.

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