SUPERTHES

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Enhanced Software Tools for Construction, Maintenance and Web Visualisation of Multilingual Thesauri

umweltbundesamt

Consiglio Nazionale delle Ricerche

Umwelt Bundes Amt
Für Mensch und Umwelt

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AUSTRIAN SCIENCE AND RESEARCH LIAISON OFFICE BRNO

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Construction, Maintenance and Visualisation of Multilingual Thesauri "SuperThes"

SuperThes Web Visualizer

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The Team

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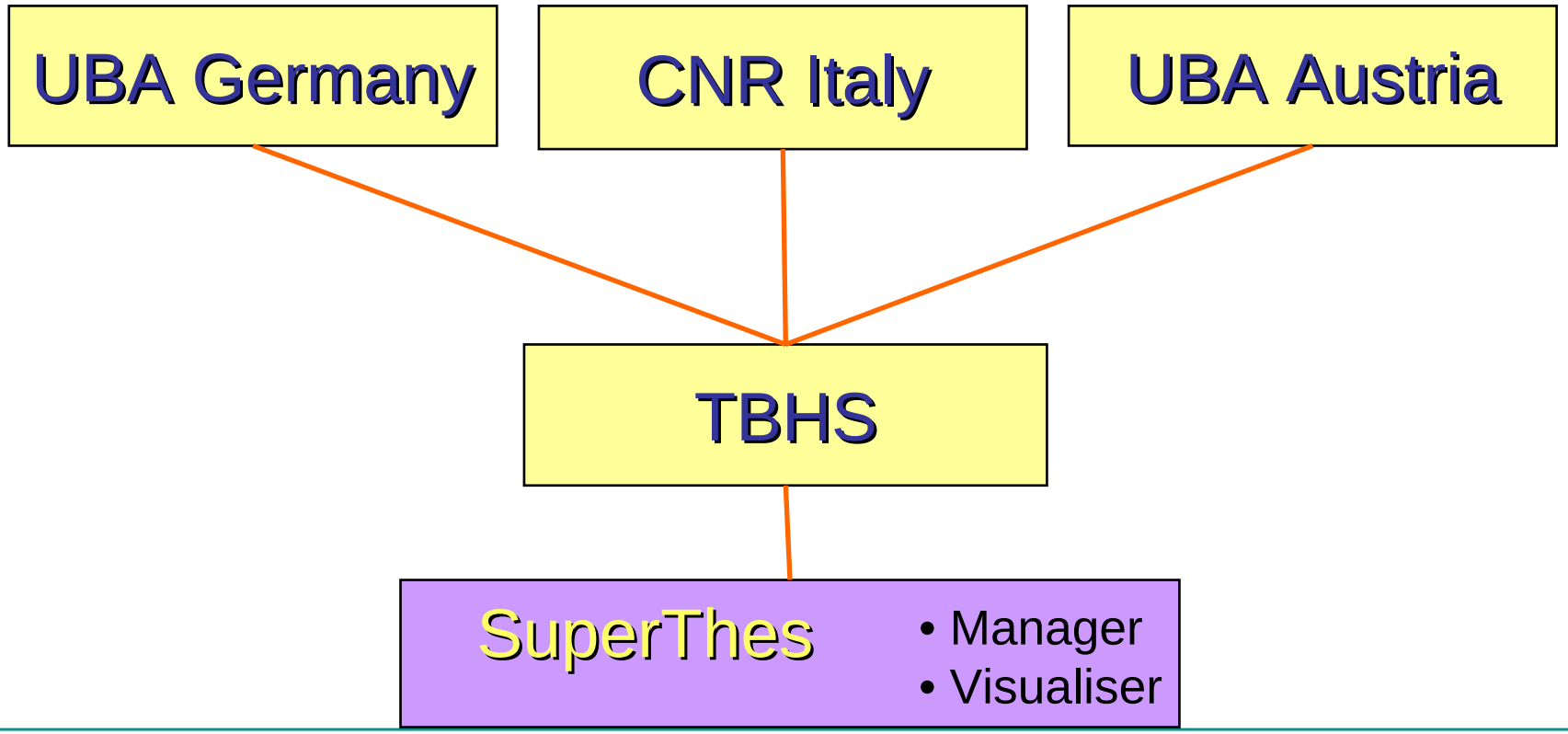
Memorandum of Understanding
(2000)



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Requirements

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1. Contemporary thesaurus data are targeted towards a world-wide audience requiring Unicode capabilities
2. Thesaurus constructors demand flexible thesaurus structures, the freedom to create thesauri from scratch, using various data types and tables
3. Convenient data exchange with standard office applications using state-of-the-art technologies like drag and drop
4. Data storage based on proven client server technology
5. Powerful report generator
6. Bulk data extraction using either standard file formats or XML

Language Definition

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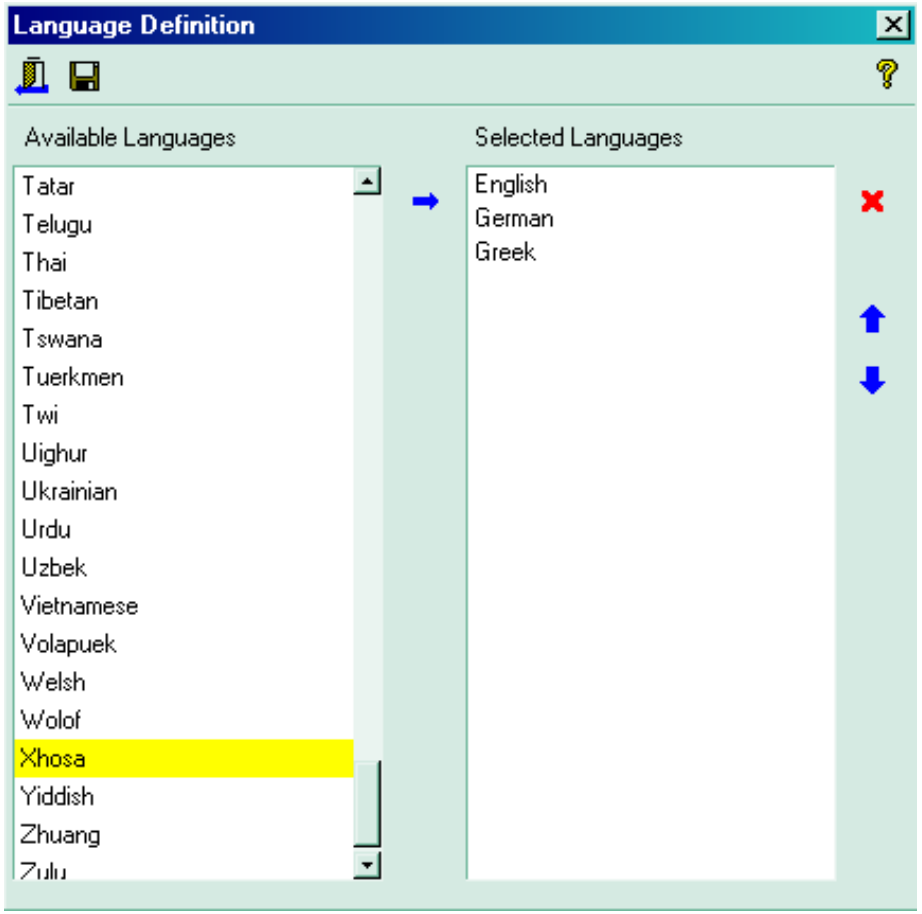
Contemporary thesaurus data are targeted towards a worldwide audience requiring true Unicode capabilities

SuperThes is Unicode compliant and stores all data in UCS-2 formats

All languages defined in ISO 639-1 are pre-defined

The availability of a particular language depends on the host systems capabilities like installed fonts, input method editors and right to left facilities



SuperThes background: THESmain

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Origins:

THESmain was created 1995 due to the lack of commercial software with sufficient multilingual capabilities

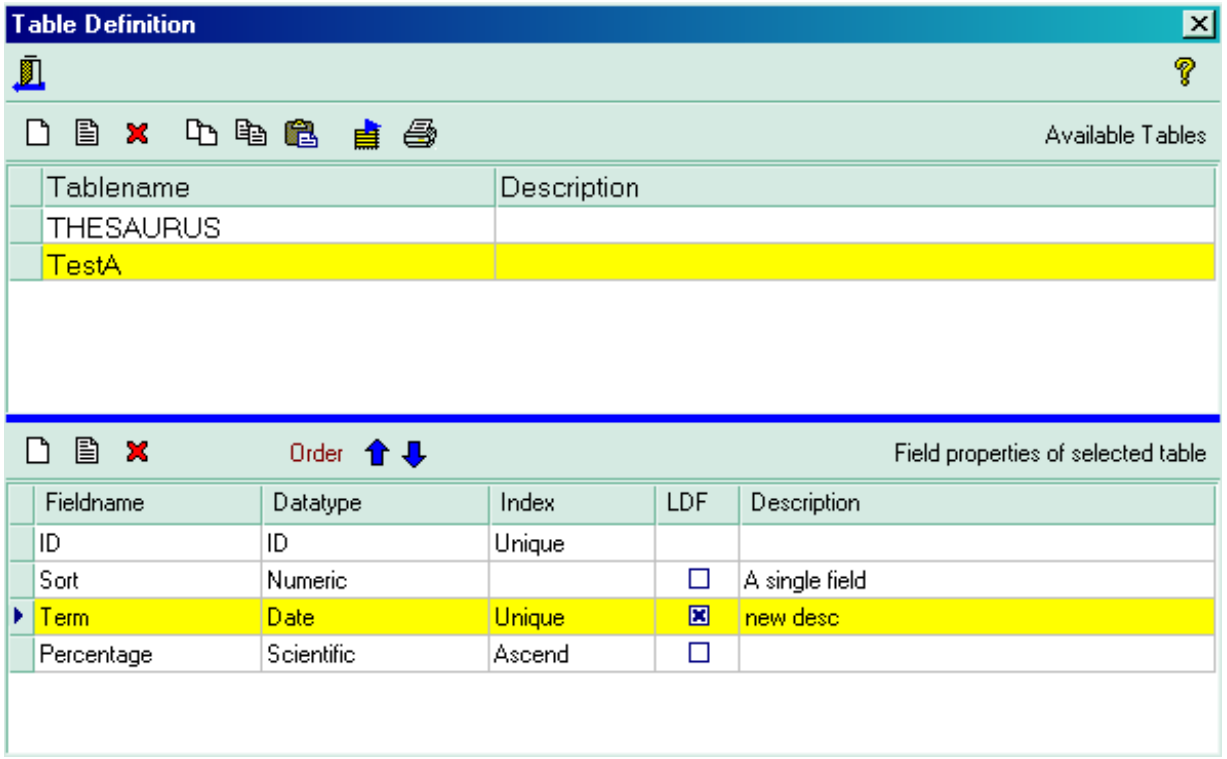
Design goals were:

- Separation of tasks “thesaurus maintenance” and “thesaurus visualisation”
- Graphical user interface
- Compliance to DIN 1462 /ISO 2788 and DIN /ISO 5964
- Must cover all spoken European languages
- Data storage in standard database format
- Standardized data exchange via SGML

Wide spread use: UDK-Thesaurus, GEMET, ENVOC, AWG, Forstglossar, Scandinavian Health Thesaurus, Ethik-Thesaurus

Thesaurus Definition

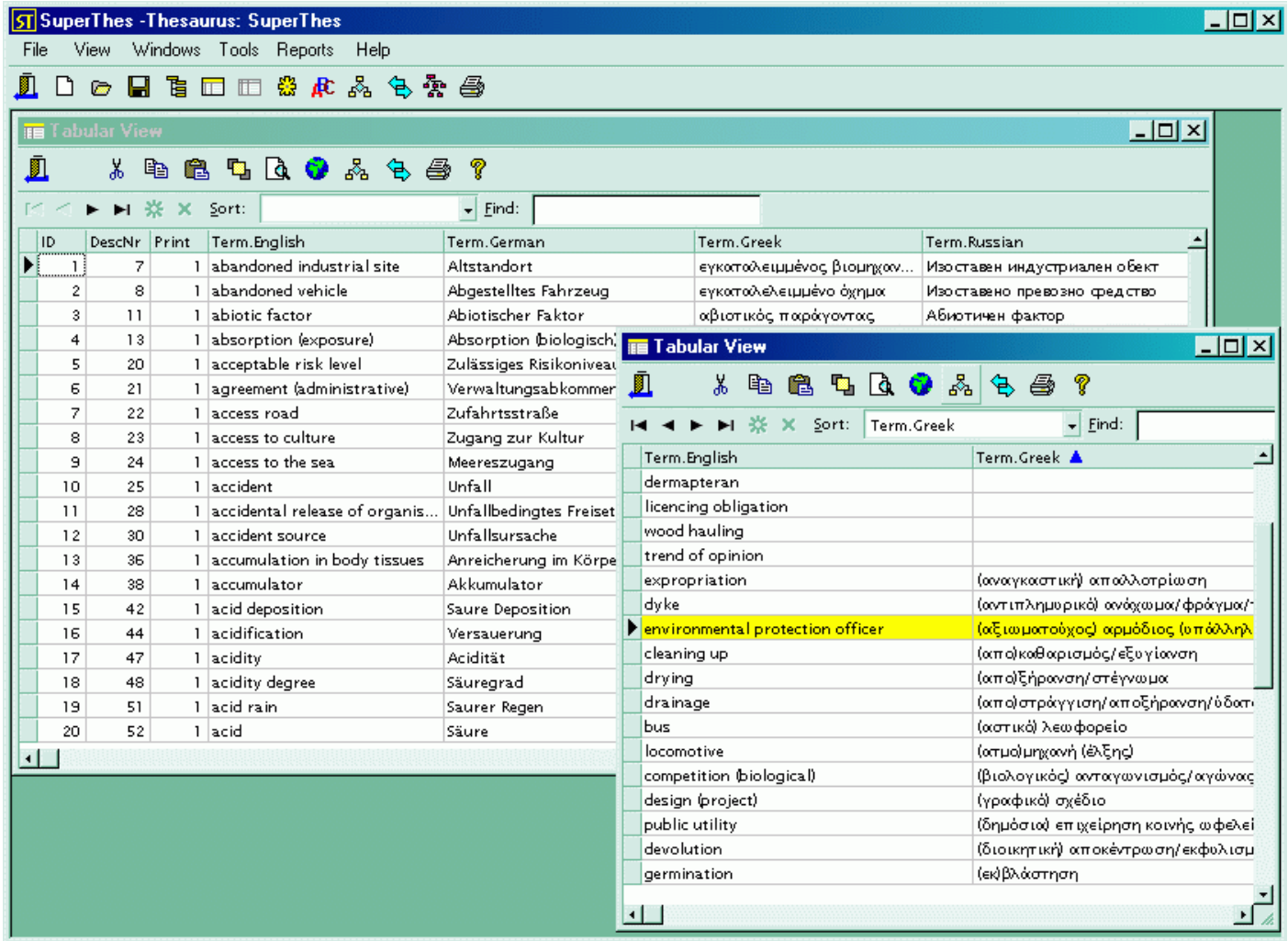
Thesaurus constructors demand flexible thesaurus structures (freedom to create thesaurus fields, data types, relations, additional tables, due to the properties of the supplied data and design goals of the thesaurus)



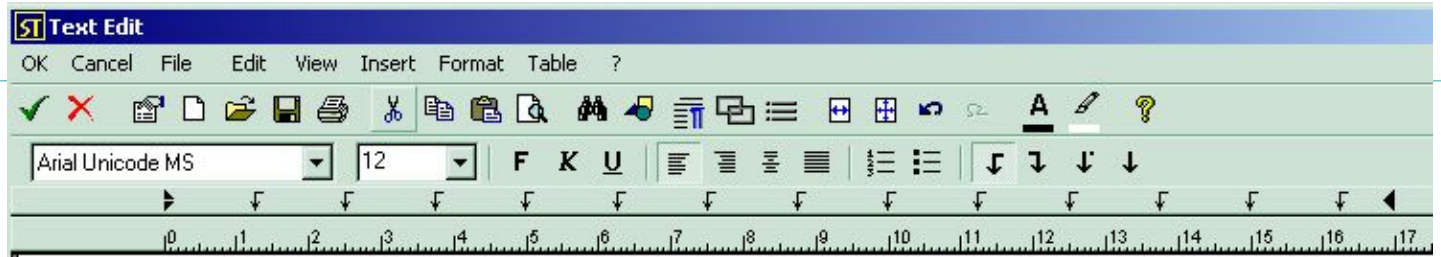
Thesauri consisting of several table may be constructed from scratch using the table definition editor

Ease of Use

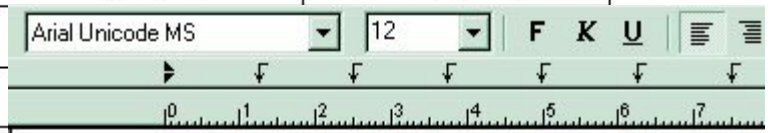
A rich graphical user interface with drag and drop features and context menus allow quick and efficient data handling



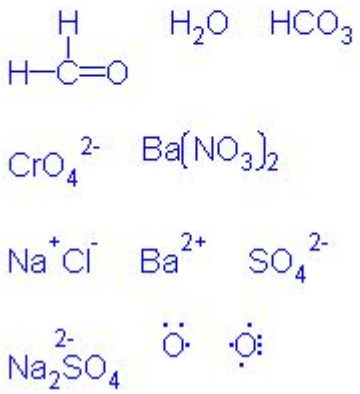
Text Editors



Name	Text	Name	Text
Arabic	يونيكود	Hindi	यूनिकोड
Armenian	Ունիկոդ	Japanese	ユニコード
Bengali	য়ুনিকোড		
Bopomofo	ㄊㄨㄥˊㄧˋㄇㄚˇ		
Chinese	统一码		
Georgian	უნიკოდი		
Greek	Γιούνικοντ		



Chemical Formulas:



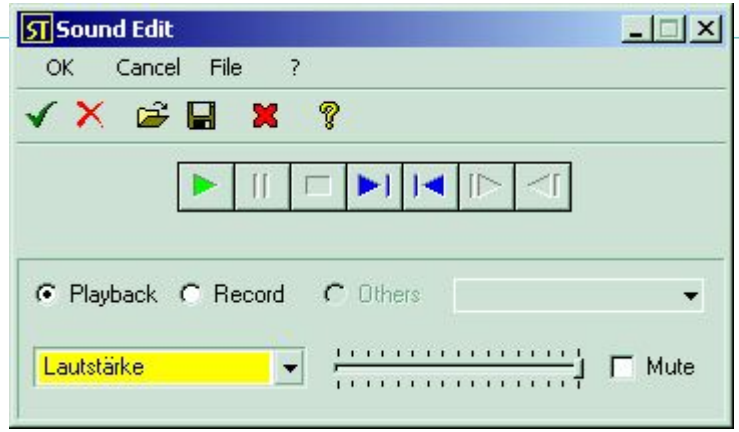
Powerful word processor plug-in:

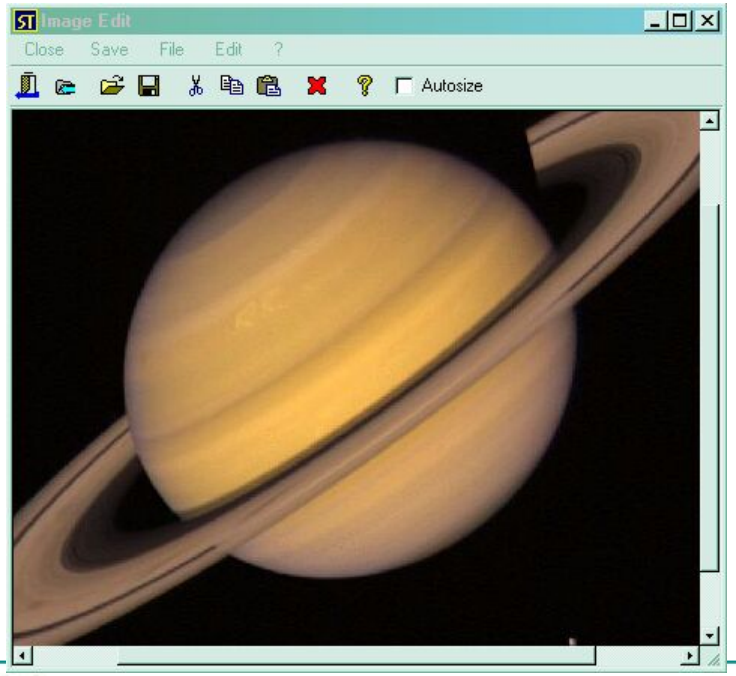
- supports tables and images
- reads and writes RTF and HTML formats
- reads and writes MS Words documents

Multimedia Editors

Multimedia editors for sounds and images:

- Supports various file formats (jpg, bmp, ico, emf, wmf)
- Data exchange with other applications via files, clipboard and drag and drop





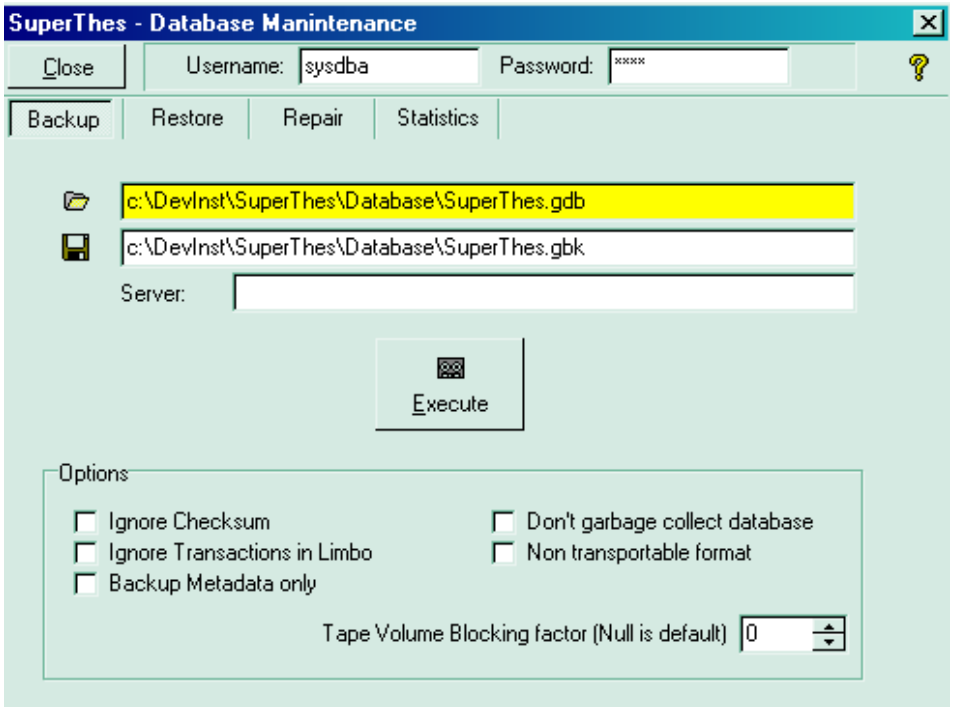
SuperThes supports a wide range of additional data types:

- boolean, date, time, decimal, list, memo, numeric and scientific

Database Technologies

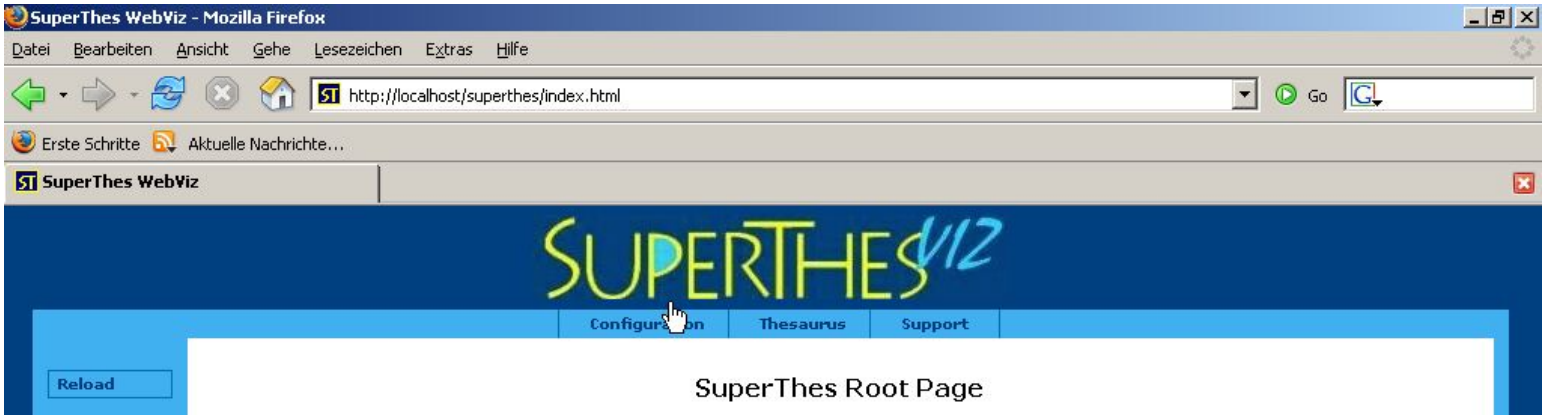
SuperThes relies on robust client server technology

For small installations, client and server may reside on the same computer



For those who do not want to learn the native database management environment, a comprehensive maintenance and backup utility is included

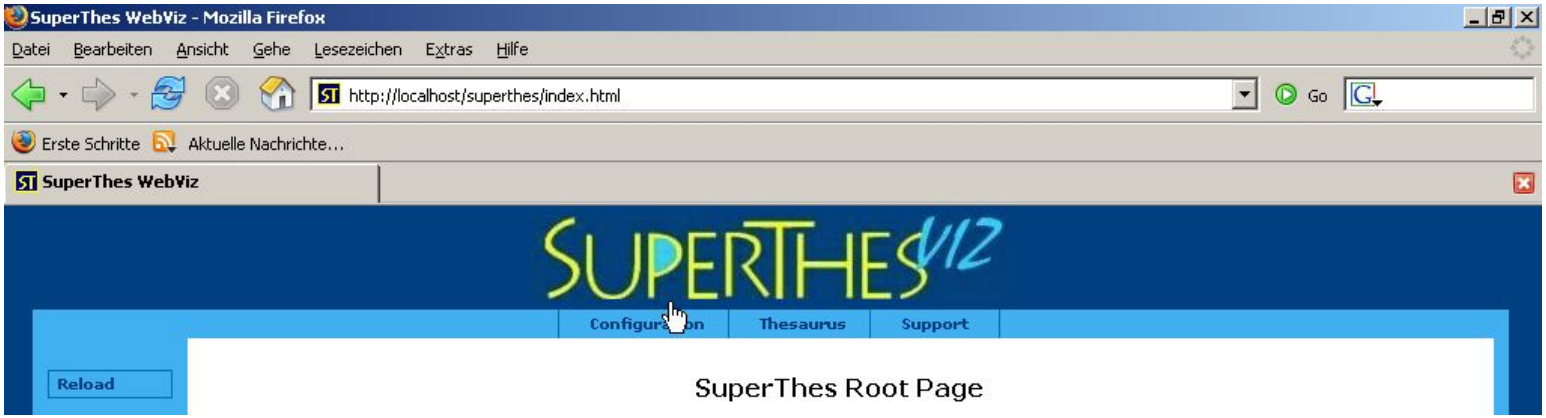
SuperThes Web Visualizer



Current developments:

The present work programme comprises a web-based tool called SuperThesVIZ which allows access to the SuperThes databases via the Internet. The main goal for the software development is to ensure the convenience of the user interface for the MS Windows-based application. SuperThesVIZ is platform independent, based on Java servlet technology.

SuperThes Web Visualizer



Requirements for the SuperThes visualisation module:

Requirement that is different from standard web application

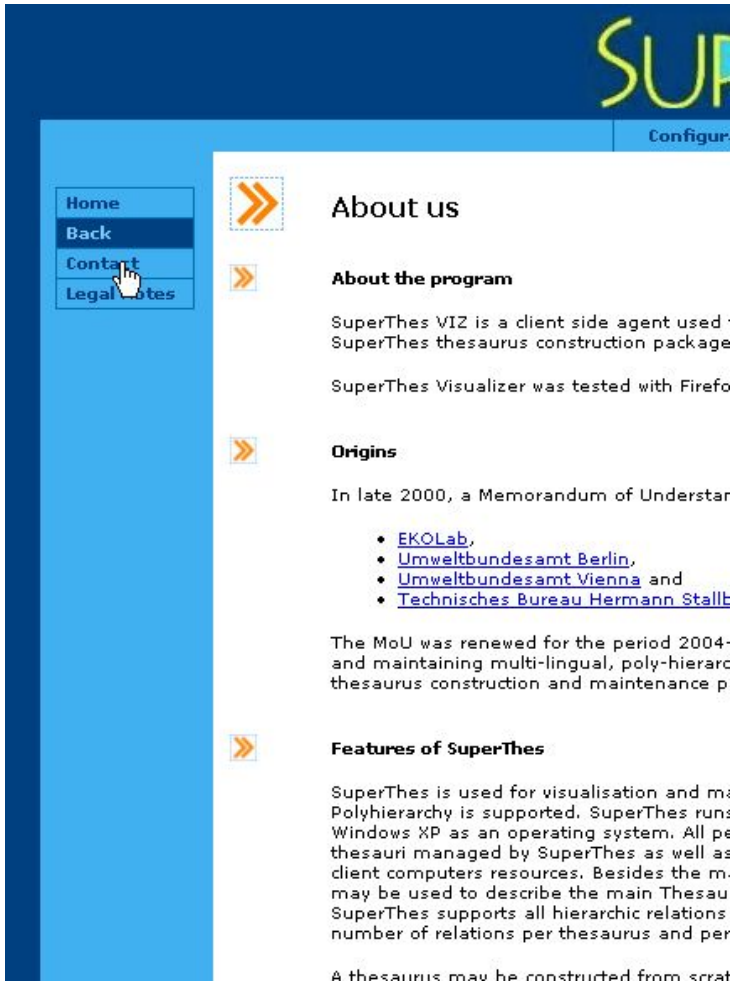
- Not the developer, but the user determines the thesaurus structure
- The visualisation module must therefore:
  - adapt to different database structures
  - be easy to configure

SuperThes Web Visualizer

Design objectives:

- System independence
- Compliance with standards
- Use of proven technologies
- Easy to configure
- Combination of several technologies
- Must be suitable for use by non programmers

it must be a type of self-configuring building block system

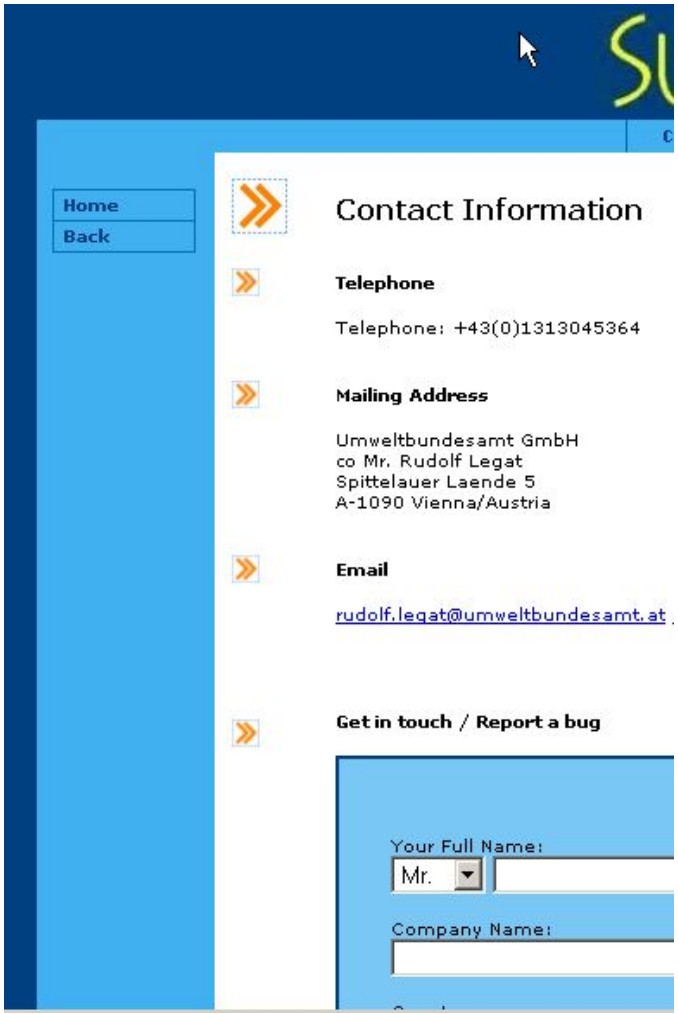


SuperThes Web Visualizer

Applied technologies:

Important! Servers might be Windows or Unix/Linux based

- XHTML 1.0
- Java Server Pages
- Java Servlets
- Firebird 1.5 (database)
- Runs on standard servlet containers, such as Tomcat 5.5



SuperThes Web Visualizer

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Features:

- Simple way of deploying SuperThes databases on the Web.
- Runs on Windows computers as well as on Unix.
- Mixed environments possible (e.g Webserver Apache/Tomcat on Unix, Database on Windows 2003 Server)
- Supports user authentication via Database Server
- Supports https for secure working
- Feature set is determined automatically from attached database
- Thesaurus display is similar to THESshow, so users familiar with it will already know the user interface

SuperThes Web Visualizer

Setup:

To deploy a SuperThes database on the web the following steps are required:

- Copy SuperThesVIZ.war into the web-apps directory of the desired servlet container
- Let the servlet engine expand the war-file
- Adapt settings in SuperThes.cfg and Mailer.ini (like location and name of database)
- Now the database should be accessible on the web

SuperThes Web Visualizer

Configuration of thesaurus presentation

- Setup is done by filling out a configuration file
- Database structure, available tables, fields, languages are extracted by the software automatically
- User related information (contact, terms of use, presentation of user organisation) is kept in simple html files.
- Html files are included into the JSP's at runtime.
- Layout of web pages is controlled from a central CSS-file, so adapting the appearence is an easy task.

Example Configuration File

```
#location and name of database driver
db_drivername = org.firebirdsql.jdbc.FB
#URL of web-server
db_serverurl = localhost
#location of SuperThes database
db_path = c:/Programme/SuperThes/Dat
#name of SUperThes database
db_name = stsample.fdb
#URL of mail host
smtp.host = smtp.eunet.at
#client information to include in mail
valid.env = REMOTE_HOST, REMOTE_ADDR, REMOTE_USER,
#list of allowed referrers
valid.referers =
```

SuperThes Web Visualizer

Technical Requirements:

Clientside:

- XHTML 1.0 compliant browser (IE, Netscape Firefox, Opera)

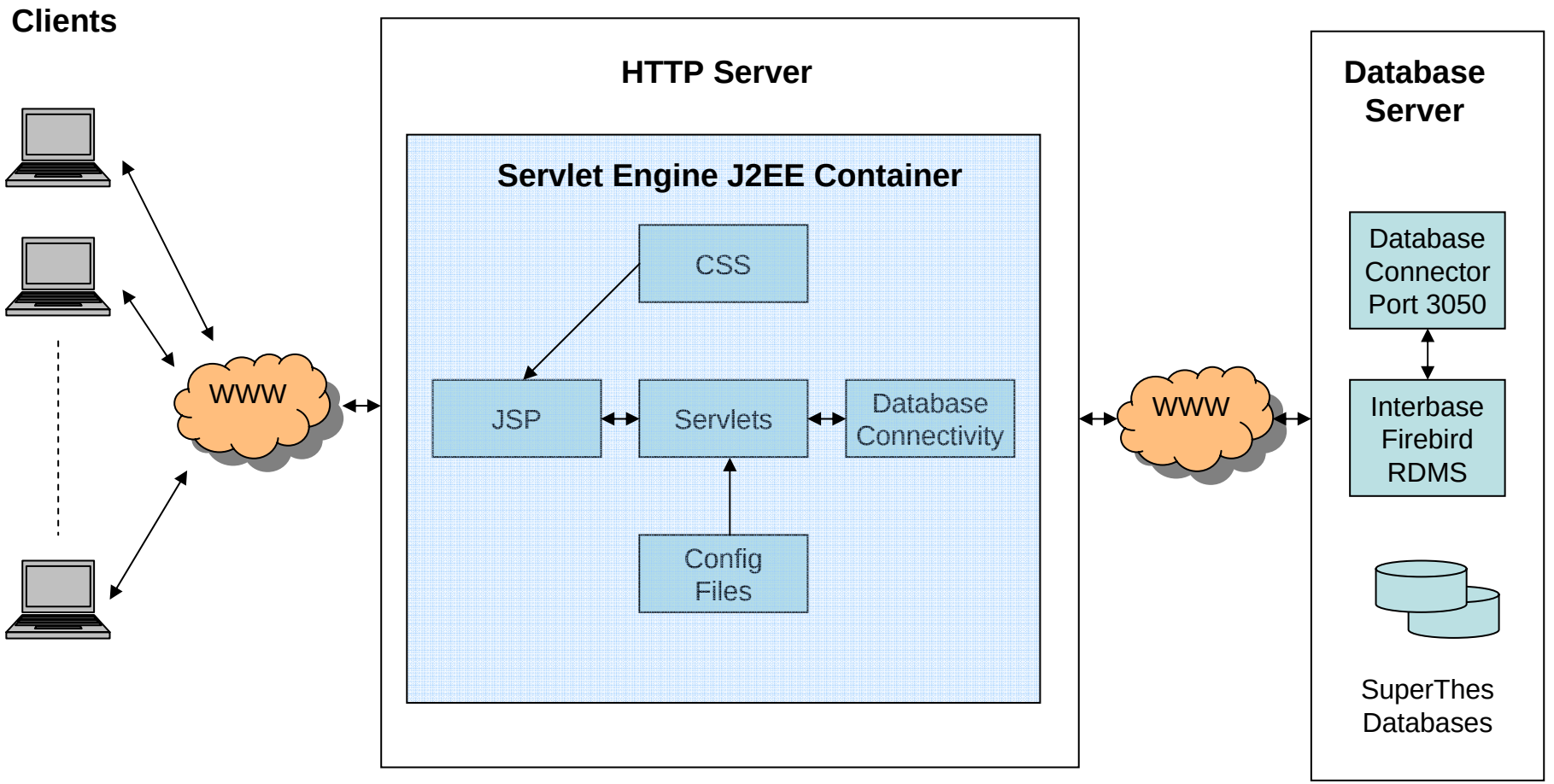
Web-Server:

- J2EE container (compliant to Servlet 2.4specs, JSP 2.0 specs)
- jdbc driver (Firebird XA-compliant JDBC driver Version 1.5)
- optional access to smpt mail service (for form mailer)

Database-Server:

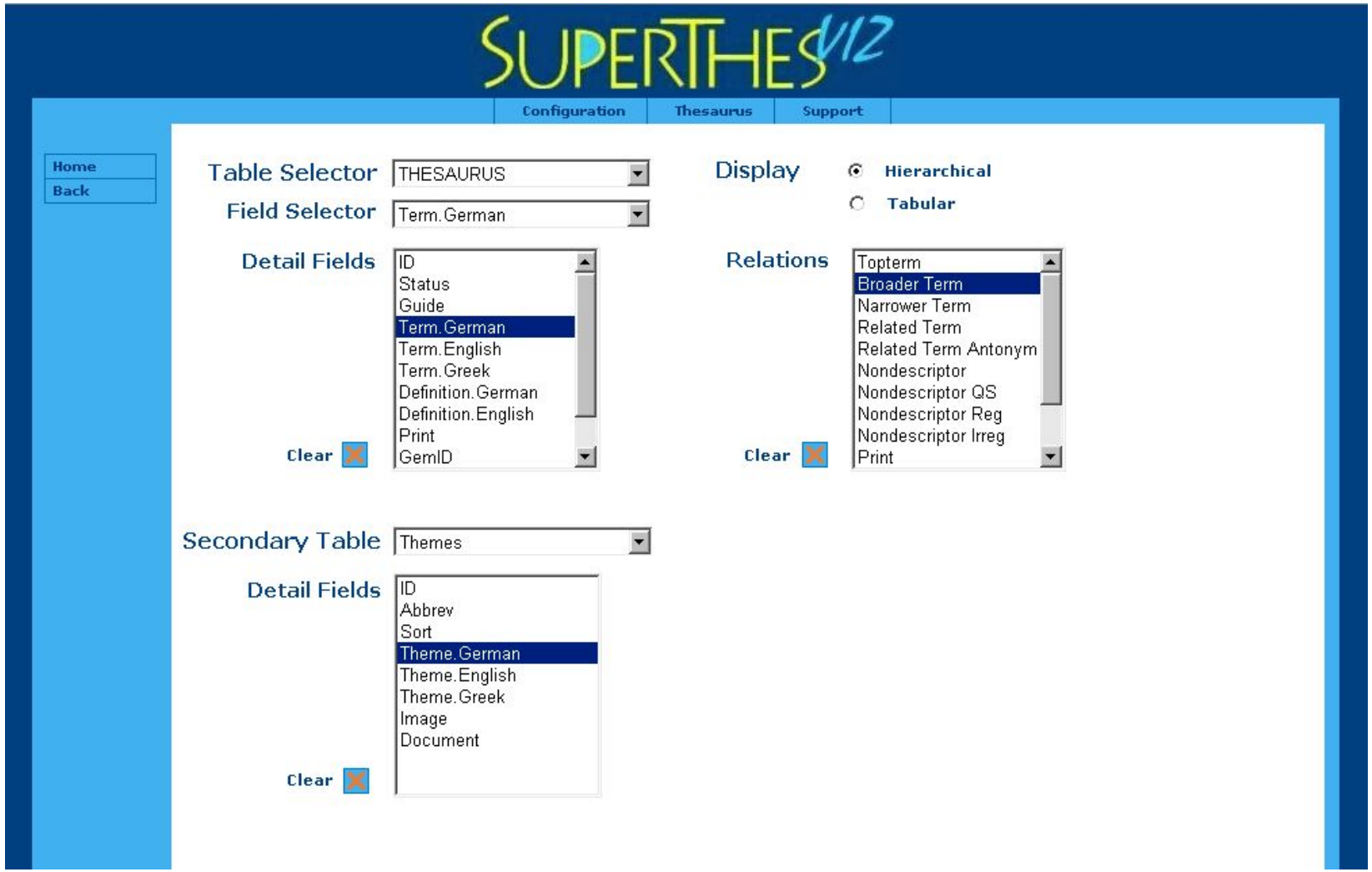
- Firebird Database engine (Version 1.5) (All Interbase engines newer than 6.0.1 should work also)

System Configuration



SuperThes Web Visualizer

Configuration page



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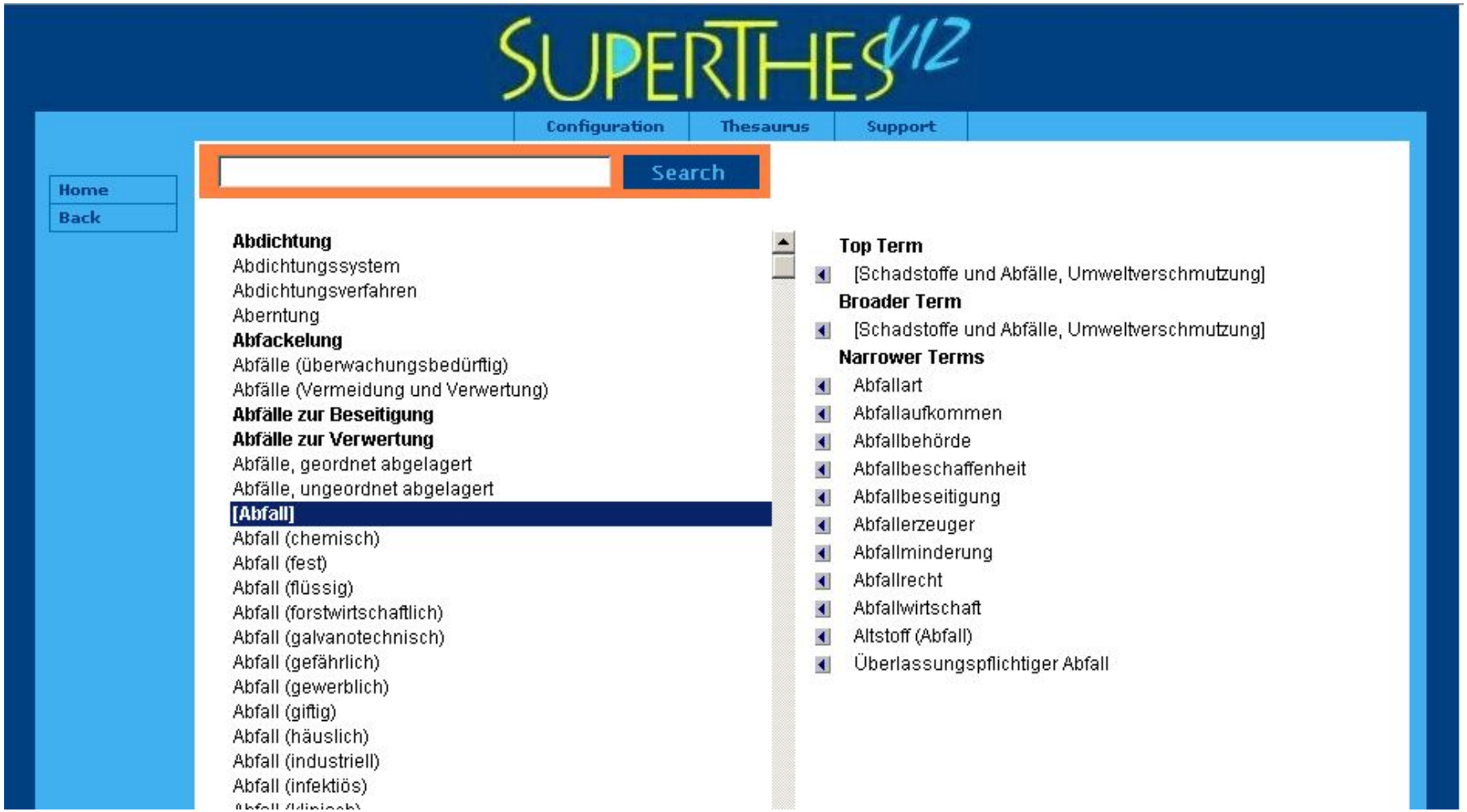
Presentation page



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