

J-ISIS

the power of ISIS combined with the
power of Java

15 May 2013

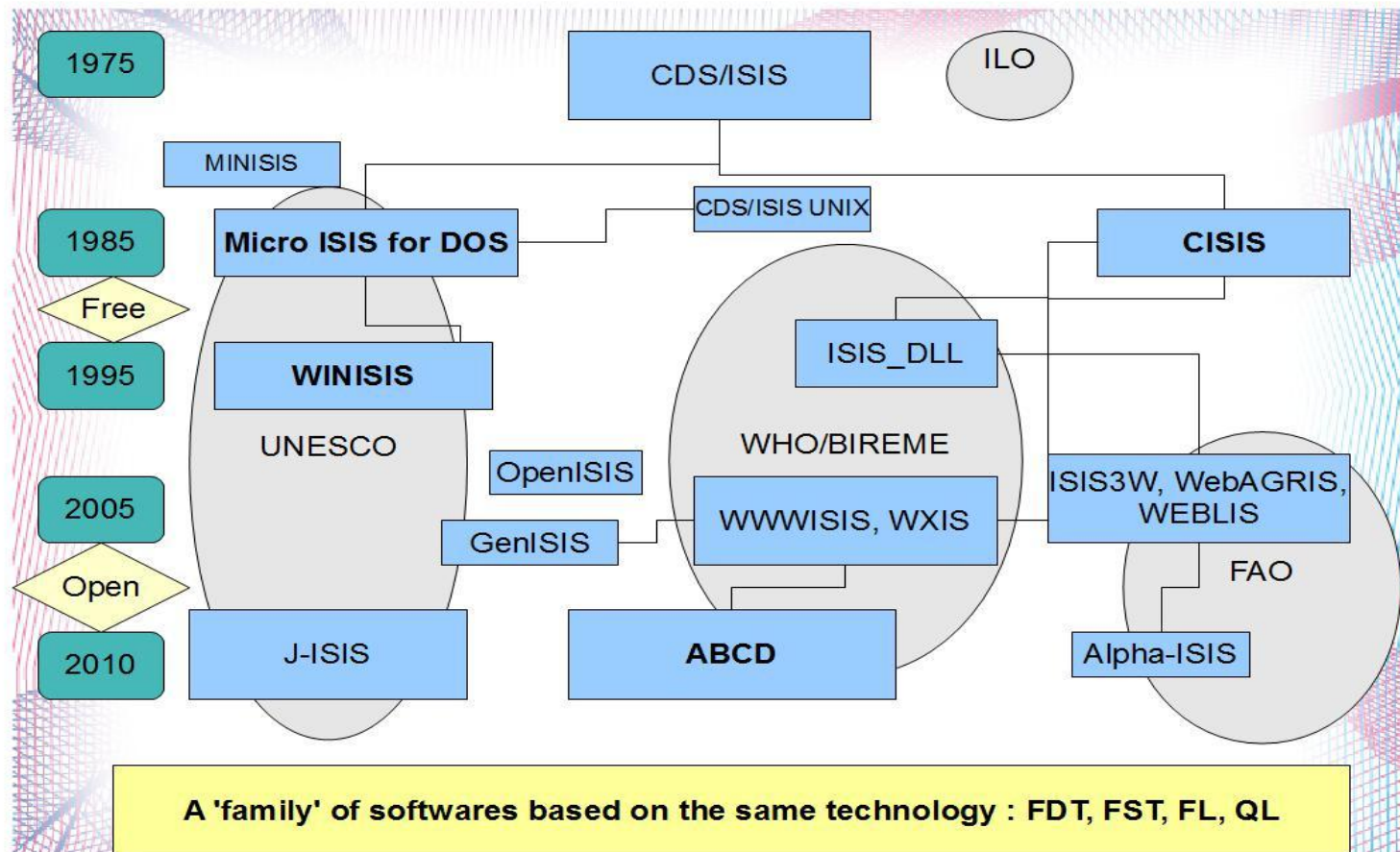
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Overview

- Some ISIS-background information
- J-ISIS : basic technology
- J-ISIS demo's :
 - Creation of a database and importing ISO-records
 - Editing features
 - Browsing features
 - Searching
 - Formatting and Groovy format exits
 - Digital Library with J-ISIS
- Web-JISIS :
 - Technology
 - Demo : browsing/editing/searching records

Some ISIS background info (1)

- The ISIS-software family



Some ISIS background info (2)

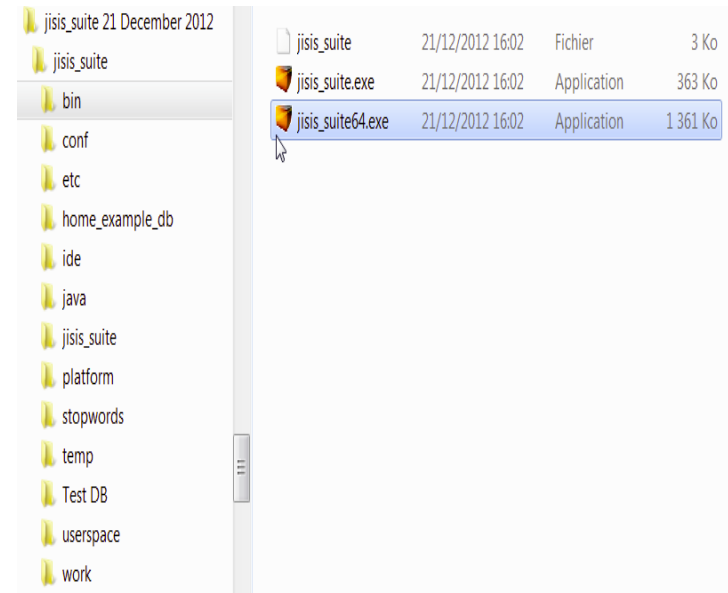
- Crucial elements :
 - FDT : fields with 0-n occurrences and variable length, subfields
 - PFT : the ‘formatting language’ is the heart of ISIS
 - Exact definition of what comes out, for presentation, sorting, indexing, exporting
 - Allows semi-relational (‘runtime’) setups
 - FST : exact definition of indexes using PFT
- Limitations : 32Kb/1Mb records, 512Mb/512Gb master-files

J-ISIS basic technology

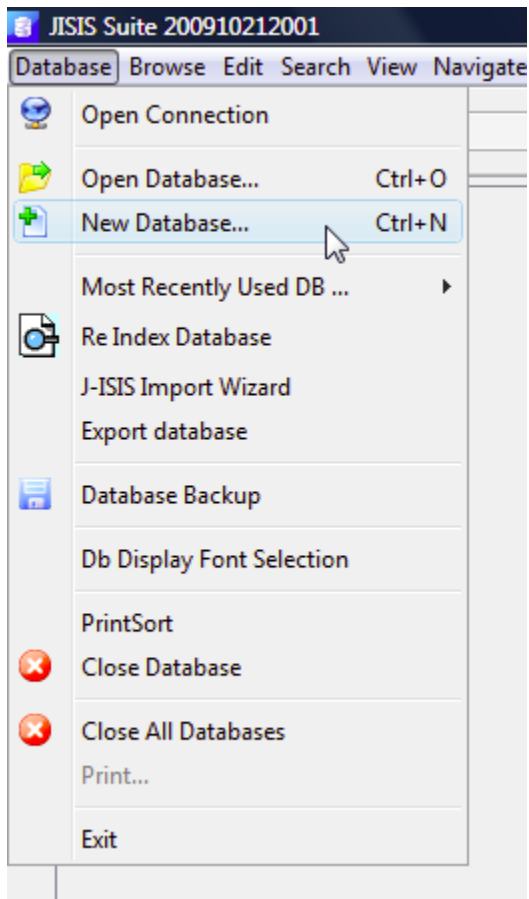
- ISIS : basic technology preserved (FDT, PFT, FST) but with different storage engine (BdB)
- Berkeley DB : no-SQL (“key-value”) FOSS database owned by Oracle, mostly embedded, with as limits :
 - 2^{31} records, fields and indexable-entries
 - 2Gb max. record- and field-size
 - no max. database size
- Lucene indexing : FOSS full-text indexer from ASF with ranking
- Java (server-client) with rich set of libraries and features (e.g. Tika, solr, IDE’s etc.)
- Web-JISIS : embedded Jetty, Struts2, AJAX for fast/high interactivity (e.g. Search-term suggestions)
- Embedded WWW-browser : JavaFX with HTML5, CSS, JavaScript, DOM

Installation and starting

- Installation : dowload package and unzip (same in Linux and OS/X), but needs Java pre-installed
- Starting : double-click in bin-folder
- Open connection (port 1111)
- Open database from list



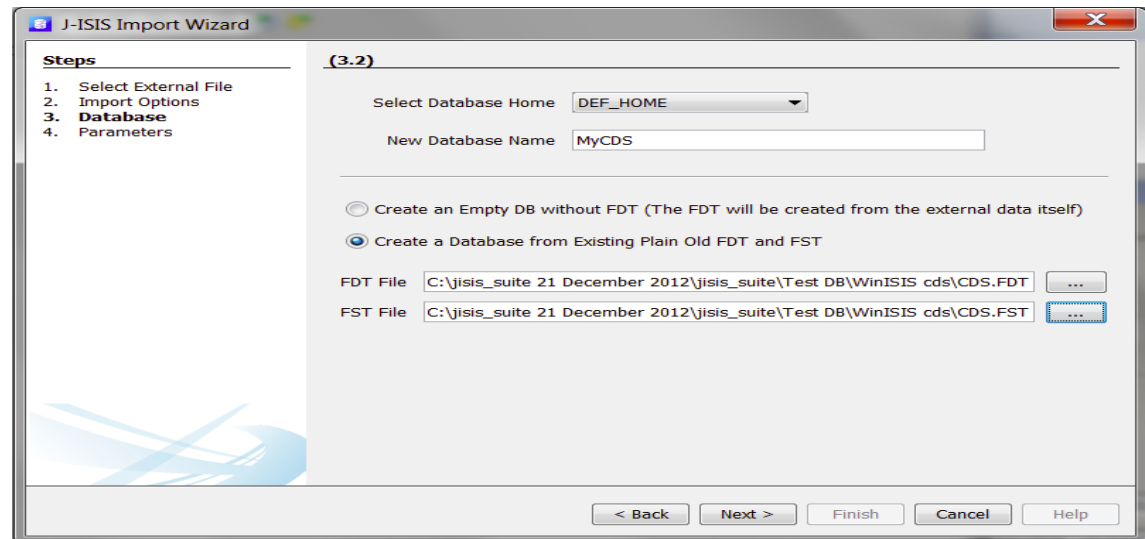
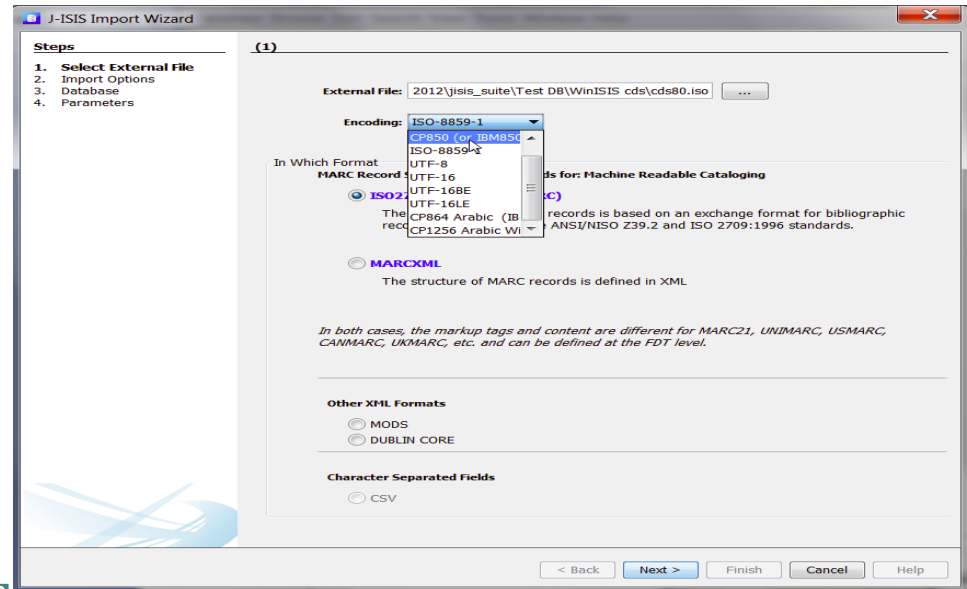
J-ISIS database creation



- A new database can either be :
 - Created from scratch
 - Imported from existing ISIS-database
 - Imported from MARC ISO2709, MARCXML, MODS, etc.
- For each database one has to create/edit :
 - FDT
 - WKS('s)
 - FST
 - PFT('s)

J-ISIS import wizard

- Formats : ISO, MARCXML, MODS, CSV
- 2 options :
 - Only data-import ISO
 - Copy existing FDT and FST
- MARC import with leader-fields in 30xx
- Export : idem



J-ISIS create database-structure

- FDT = a fields-'repository' defining each fields'
 - Tag (1-999)
 - Name,
 - Type
 - Repeatable or not
 - Subfields
 - Indicators (in case of MARC)

Database Structure

Tag	Name	Type	Indicators	Rep.	First Subfield	Subfields/Pattern
20	Authors	ALPHANUMERIC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ab

Tag	Name	Type	Indicators	Rep.	1st Subfield	Subfields/Pattern
10	Title	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	Authors	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ab

Worksheet definition

- Any (or all) field(s) of the FDT can be used in any sequence
- For each field can be defined : default value, help message, validation, picklist

The screenshot shows the 'Create New Database Wizard' window, specifically the 'Data Entry Worksheets' step. The window title is 'Create New Database Wizard'. On the left, a 'Steps' panel lists: 1. Enter the Database Name, 2. Database Structure, 3. **Data Entry Worksheets**, and 4. Field Selection Table. The main area is titled 'Data Entry Worksheets' and contains a table 'Fields Defined in the FDT:' with columns: Tag, Name, Type, Indicators, Rep., 1st Subfield, and Subfields/Pattern. The table has two rows: Tag 10, Name Title, Type 0, Indicators (checkbox), Rep. (checkbox), 1st Subfield (checkbox), Subfields/Pattern; and Tag 20, Name Authors, Type 0, Indicators (checkbox), Rep. (checked checkbox), 1st Subfield (checkbox), Subfields/Pattern 'ab'. Below the table are four navigation buttons: a down arrow, an up arrow, a double arrow (highlighted by a mouse cursor), and another up arrow. Below these is a 'Worksheet Definition' table with columns: Tag, Description, Disp..., Default, Help Message, Validation, and Pick List. This table has two rows: Tag 10, Description Title, Disp..., Default, Help Message, Validation, Pick List; and Tag 20, Description Authors, Disp..., Default, Help Message, Validation, Pick List. At the bottom left, there is a 'Record level validation' label and a large empty text box. At the bottom right, there are five buttons: '< Back', 'Next >', 'Finish', 'Cancel', and 'Help'.

Tag	Name	Type	Indicators	Rep.	1st Subfield	Subfields/Pattern
10	Title	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	Authors	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ab

Tag	Description	Disp...	Default	Help Message	Validation	Pick List
10	Title					
20	Authors					

Index definition : FST

Exact definition of extraction of database-values to act as input for search, sort, export (and validation)..

Each definition defines ID, Name, Technique (0-9) and the PFT

Create New Database Wizard


Steps

1. Enter the Database Name
2. Database Structure
3. Data Entry Worksheets
4. **Field Selection Table**

Field Selection Table

Available Fields

Tag	Name	Type	Indicators	Rep.	1st Subfield	Subfields/Pattern
10	Title		0	<input type="checkbox"/>	<input type="checkbox"/>	
20	Authors		0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ab



Field Selection Table

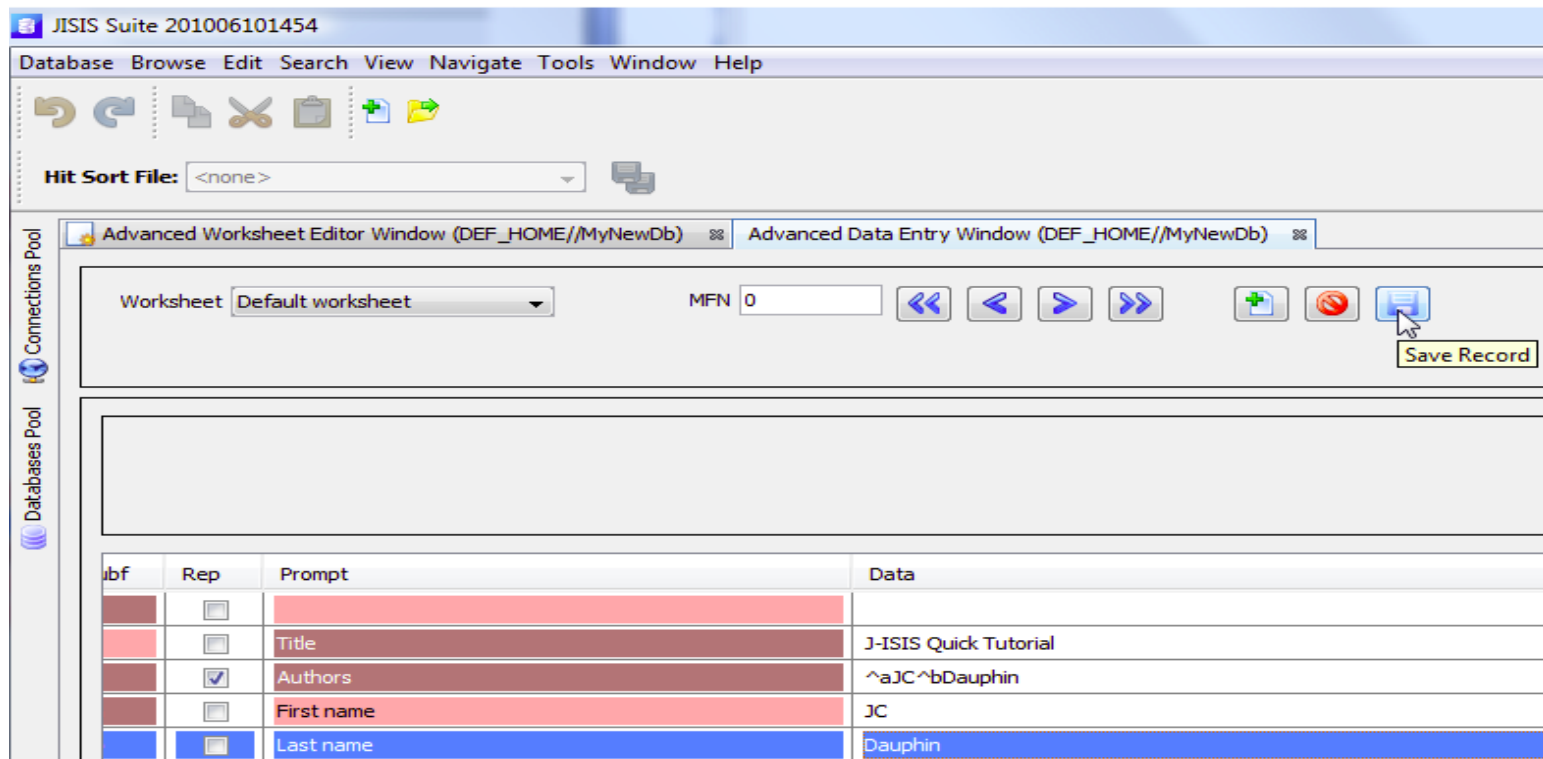
ID	Name	Technique	Format
10		1 - Subfields ...	v10
20		1 - Subfields ...	v20

Field Selection Table

ID	Name	Technique	Format
1		0 - lines extracted from the Pft	TRN= v1^b
2		0 - lines extracted from the Pft	EN= v2
100		0 - lines extracted from the Pft	mhl (AU= v100'%)
120		0 - lines extracted from the Pft	mhl TI= v120
120		8 - Prefixed terms tech 4	'/TW=/,v120
120		8 - Prefixed terms tech 4	'/BI=/,v120
200		0 - lines extracted from the Pft	(AU= v200'%)
220		0 - lines extracted from the Pft	mhl TI= v220

Data entry

- Values can be entered in each field or subfield
- Picklists can be defined as in WinISIS (no limits)
- Validation PFT's can be applied upon saving
- Automatic indexing will be applied on each new record



The screenshot shows the JISIS Suite 201006101454 interface. The main window is titled 'Advanced Data Entry Window (DEF_HOME//MyNewDb)'. The interface includes a menu bar (Database, Browse, Edit, Search, View, Navigate, Tools, Window, Help) and a toolbar with various icons. A 'Hit Sort File' dropdown is set to '<none>'. The 'Advanced Worksheet Editor Window (DEF_HOME//MyNewDb)' is also visible. The 'Worksheet' is set to 'Default worksheet' and the 'MFN' is 0. The 'Save Record' button is highlighted with a mouse cursor.

ibf	Rep	Prompt	Data
	<input type="checkbox"/>		
	<input type="checkbox"/>	Title	J-ISIS Quick Tutorial
	<input checked="" type="checkbox"/>	Authors	^aJC^bDauphin
	<input type="checkbox"/>	First name	JC
	<input checked="" type="checkbox"/>	Last name	Dauphin

(Web-)JISIS searching

- Based no longer on ISIS QL but Lucene QL :
 - Index-listing support
 - Boolean (AND/OR/NOT)
 - Proximity and range
 - Truncation and escaping characters
 - Ranking result
- Guided search and Expert Search (=no support in QL building)

J-ISIS Web Application

Database	Browse	Edit	Search
Match Option:		<input checked="" type="radio"/> Match All of the Following	<input type="radio"/> Match Any of
<All Searchable Fields>	Matching	▼	sys
<All Searchable Fields>	Matching	▼	10[1] Syspar
<All Searchable Fields>	Matching	▼	10[1] SYSPAR
<All Searchable Fields>	Matching	▼	10[1] syspar.old
<All Searchable Fields>	Matching	▼	10[2] syspar.par
<All Searchable Fields>	Matching	▼	10[1] Syspar.par
<All Searchable Fields>	Matching	▼	10[2] SYSPAR.PAR
<input type="button" value="Search"/>			10[5] system
			10[4] System
			10[2] SYSTEM

Footer

Printing and sorting

- Fully follows the powerful multi-level sorting of WinISIS
- Up to 4 levels
- Printing in HTML or plain text with pre-defined PFT
- By range, search or marked list

PrintSort Window (DEF_HOME//ASFAEX)

Print Sort

SELECTION OF RECORDS TO SORT

MFN Range All MFNs Marked Search Results From Search:

Enter MFNs and/or MFN ranges separated by commas. For example 1,10,100-150,50

No Marked Sets

No Search

HEADINGS

Heading Format: N° of Headings: 4 Heading Level Indentation: 4 Print With Headings

SORTING PARAMETERS

Stopword File: Select

Sorting Keys:

	Sorting Key	Length	Heading Pro...	FST
<input checked="" type="checkbox"/>	First	15	0	100 0 (v100/)
<input checked="" type="checkbox"/>	Second	15	0	120 0 (v120/)
<input type="checkbox"/>	Third	15	0	
<input type="checkbox"/>	Fourth	15	0	

Enter the FST name preceded by an at sign (@) for a pre-defined FST.
To provide an actual FST, you must enter the three components separated by a space in the following order: field identifier, indexing technique, and format
In case you need to enter a multi-line FST, separate each line with a + sign surrounded by spaces

SORTING

Sort Making a Hit File

Z39.50

- Z39.50 servers (e.g. LC) can be defined
- Searches to retrieve MARC-records can be done
- [not fully implemented yet]

Category: All
Country: All
Server type: Z3950

Title: [] AND []
Author: [] vervliet

Search Progress: Completed... Cancel

<input type="checkbox"/>	S.No	Main Entry	Title	Group	RecordDetails
<input type="checkbox"/>	1		Het Oude en het nieuwe boek, de oude en de nieuwe bibliotheek /[/redactie J....	Library of Congre...	LEADER 01321
<input type="checkbox"/>	2		Post-incunabula and their publishers in the low countries :/edited and introdu...	Library of Congre...	LEADER 0171-
<input type="checkbox"/>	3		Stadsbeelden /uitgegeven door Paul Pelckmans, Raymond Vervliet.	Library of Congre...	LEADER 0105f
<input type="checkbox"/>	4	Borm, J. van	State of the art of the application of new information technologies in libraries ...	Library of Congre...	LEADER 0123:
<input type="checkbox"/>	5	Broggiotti, Andrea.	The type specimen of the Vatican press 1628./A facsimile with an introd. and ...	Library of Congre...	LEADER 0114
<input type="checkbox"/>	6	Carter, Harry Graham.	Civilité types, /by Harry Carter and H. D. L. Vervliet.	Library of Congre...	LEADER 0102
<input type="checkbox"/>	7	Cornelissen, Jozef,	Idioticon van het antwerpsch dialect (stad Antwerpen en antwerpsche Kempe...	Library of Congre...	LEADER 0095-
<input type="checkbox"/>	8	Gerlo, Alois.	Bibliographie de l'humanisme des anciens Pays-Bas. /Par Alois ...	Library of Congre...	LEADER 0155
<input type="checkbox"/>	9	Gerlo, Alois. [from old catalog]	Inventaire de la correspondance de Juste Lipse. 1564-1606,/-	Library of Congre...	LEADER 0078:
<input type="checkbox"/>	10	Hegenscheidt-Heyman, Madeleine.	Leven met een schrijver :/eindredactie van de biografie en teksteditie van de...	Library of Congre...	LEADER 0118:
<input type="checkbox"/>	11	IFLA/Unesco Pre-Session Seminar for Librarians from Developing Countries	Resource sharing of libraries in developing countries :/edited by H.D.L. Vervliet.	Library of Congre...	LEADER 0125:
<input type="checkbox"/>	12	Langendonck, Prosper van.	Fernand Victor Toussaint van Boelaere :/Prosper van Langendonck ; tekstedit...	Library of Congre...	LEADER 0097f
<input type="checkbox"/>	13	Lipsius, Justus,	Justi Lipsi epistolae /cura A. Gerlo, M.A. Nauwelaerts, H.D.L. Vervliet ; with a...	Library of Congre...	LEADER 0127:
<input type="checkbox"/>	14	Simon,	Boekken van der officien ofte dienst der missen /Simon van Venlo.	Library of Congre...	LEADER 0213:
<input type="checkbox"/>	15	Toussaint van Boelaere, F. V.	Prosper van Langendonck :/Fernand Victor Toussaint van Boelaere ; tekstedit...	Library of Congre...	LEADER 0119
<input type="checkbox"/>	16	Verduyn, G.	Teledetectie van atmosferische pollutanten door korrelabe...	Library of Congre...	LEADER 0122:
<input type="checkbox"/>	17	Vervliet, Chris,	Het nieuwe Zuid-Afrika /Chris Vervliet.	Library of Congre...	LEADER 0091:
<input type="checkbox"/>	18	Vervliet, Chris,	Zuid-Afrika :/Chris Vervliet.	Library of Congre...	LEADER 0087:
<input type="checkbox"/>	19	Vervliet, Hendrik D. L.	French Renaissance printing types :/Hendrik D.L. Vervliet.	Library of Congre...	LEADER 0155f
<input type="checkbox"/>	20	Vervliet, Hendrik D. L.	Vine leaf ornaments in Renaissance typography :/Hendrik D.L. Vervliet.	Library of Congre...	LEADER 0168f
<input type="checkbox"/>	21	Vervliet, Hendrik D. L.	The palaeotypography of the French Renaissance :/Hendrik D.L. Vervliet.	Library of Congre...	LEADER 0165:
<input type="checkbox"/>	22	Vervliet, Hendrik D. L.	Lipsius' jeugd, 1547-1578;/door Hendrik D. L. Vervliet.	Library of Congre...	LEADER 0118:
<input type="checkbox"/>	23	Vervliet, Hendrik D. L.	Bibliometrie en bibliotheekbudgetten /door Hendrik D. L. Vervliet.	Library of Congre...	LEADER 0098f
<input type="checkbox"/>	24	Vervliet, Hendrik D. L.	Wetenschappelijk publiceren :/door Hendrik D.L. Vervliet.	Library of Congre...	LEADER 0103:
<input type="checkbox"/>	25	Vervliet, Hendrik D. L.	Cyrillic & oriental typography in Rome at the end of the sixteenth century :/H...	Library of Congre...	LEADER 0134:
<input type="checkbox"/>	26	Vervliet, Hendrik D. L.	Liber librorum, cinq mille ans d'art du livre. /Contributions originales ...	Library of Congre...	LEADER 0123:
<input type="checkbox"/>	27	Vervliet, Hendrik D. L.	Sixteenth century printing types of the Low Countries. /[By] H. D. L. Vervliet. ...	Library of Congre...	LEADER 0117:
<input type="checkbox"/>	28	Vervliet, Hendrik D. L.	The book through five thousand years:/by Fernand Baudin [and others] Edite...	Library of Congre...	LEADER 0102:
<input type="checkbox"/>	29	Vervliet, Hendrik D. L.	Robert Granjon à Rome, 1578-1589;/par H.D.L. Vervliet.	Library of Congre...	LEADER 0094:
<input type="checkbox"/>	30	Vervliet, Hendrik D. L. [from old catalog]	Orientaliste [1882-1967] Specimen./-	Library of Congre...	LEADER 0078-
<input type="checkbox"/>	31	Vervliet, Hendrik D. L. [from old catalog]	Letters./-	Library of Congre...	LEADER 0062:
<input type="checkbox"/>	32	Vervliet, K. [from old catalog]	Arbeid op het veld./-	Library of Congre...	LEADER 0061:
<input type="checkbox"/>	33	Vervliet, Raymond.	Literatuur als woord en daad :/Raymond Vervliet ; huidealbum samengesteld,...	Library of Congre...	LEADER 0160f
<input type="checkbox"/>	34	Vervliet, Raymond.	De literaire manifesten van het fin de siècle in de zuidnederlandse ...	Library of Congre...	LEADER 0128:
<input type="checkbox"/>	35	Vervliet, Raymond.	Het Dwaallicht achterna :/Raymond Vervliet.	Library of Congre...	LEADER 0081f

Groovy programming plug-in

- Groovy = object-oriented programming ‘superset’ of Java, general purpose scripting
- Groovy can be embedded as ‘format exit’ into PFT’s (like the old ISIS-Pascal did before) as `: &myProgram(...)` or used to produce reports, change database records, etc..
- E.g. putting date into output `: &ActualDate()`
 - `package jisisgroovie;`
 - `import java.text.SimpleDateFormat;`
 - `import java.util.Date;`
 - `def ActualDate() {`
 - `def date = new Date();`
 - `def sdf = new SimpleDateFormat("yyyyMMddhhmmss");`
 - `return sdf.format(date);`
 - `}`
 - `ActualDate()`

J-ISIS Digital Library

- Using TIKKA, all types of documents can be selected and then :
 - Text extracted and loaded into a(ny) dedicated field of any J-ISIS database
 - Automatic creation of URL hyperlink to original document, stored in J-ISIS repository (idocs-subfolder)
 - Full-text indexed and searchable
 - With highlighting of search-keys
- Very fast processing, economical storage

Digital Library example record

Data Viewer (DEF_HOME//SimpleDL) ☒

MFN: ⏪ ⏩ ⏴ ⏵ Format: Last Mfn: Mark Menu Mark This Record

RECORD(1)

Tag	Field/Occurrence
	<p><i><<Reference Manual (Version 1.5) UNESCO Information Society Division Sector of Communication and Information © UNESCO, June 2004 (This manual refers to Winisis 1.5 build 3) Revised by: Ben Winnubst, New Zealand (June 2004)</i></p> <p><i>Foreword</i></p> <p><i>CDS/ISIS is a menu-driven generalized Information Storage and Retrieval system designed specifically for the computerized management of structured non-numerical data bases. One of the major advantages offered by the generalized design of the system is that CDS/ISIS is able to manipulate an unlimited number of data bases each of which may consist of completely different data elements. Although some features of CDS/ISIS require knowledge of and experience with computerized information systems, once an application has been designed the system may be used by persons having had little or no prior computer experience. For advanced users, CDS/ISIS offers a wide range of programming facility allowing the development of specialized applications through the use of its powerful print formats. For real computer programmers, an external</i></p>

Web-JISIS

- Prototype not yet finished, but functional
- Based on external Servlet server (Tomcat or Jetty) or the embedded Jetty-server (work in progress)
- Uses J-ISIS server part as database-server
- Functions implemented : database-selection, browsing, editing and searching
- Very fast and interactive

Web-JISIS (1)

- Put the web-jisis3.war file into the webapps-folder of your jsp-server (TomCat/Jetty)
- Start the server
- Open the URL : <http://localhost:8585/web-jisis3/>
- Login with Admin/Admin
- Lay-out is CSS-based, so can be fully changed

J-ISIS Web Application

Database Browse Edit Search Contact

Database Selected:

Home=Undefined dbName= None

Select Database:

dbHome	dbName	
DEF_HOME	ASFAEX	Select
DEF_HOME	AUTOR	Select
DEF_HOME	BIBAN	Select
DEF_HOME	BIBLO	Select

Web-JISIS : browse records

- After database-selection the database can be browse with the normal navigation buttons
- Browse can work with any defined PFT

J-ISIS Web Application

Database	Browse	Edit	Search	Contact
----------	--------	------	--------	---------

1	MFN	Go to MFN	◀ ◂ ▶ ▸	PFT egbert
---	-----	-----------	---------	------------

Record N. 0000001

Document type (3)	B
Bibliographic level (5)	MS
USE (6)	N
Date last update (7)	19950228
USE (13)	GLOBEFISH, Rome (Italy)
English title (14)	Trade regulations and trends in the fish trade in the USA, The European Union and Japan
Serial title (18)	GLOBEFISH Res. Programme
USE (34)	EN, EN
Abstract (36)	Trade flows of fish and fishery products among the USA, the EU and Japan are reviewed. Commodity marketing is detailed in graphs and tables. The appendixes include legal regulations which govern the importation of fish and fish products in these three regions.
USE (39)	FISHERY PRODUCTS; INDUSTRIAL PRODUCTS STATISTICS; TRADE; MARKETING; FISHERY INDUSTRY LEGISLATION
USE (42)	USA; EUROPE; JAPAN
USE (44)	Q1, AQUATIC PRODUCTS MARKETING: Marketing, 1/2/3/4/5/G6/7/8/
Test Link (45)	click on this
Test Link (45)	click on this (new browser)

Web-JISIS (2)

- Editing records with one of the defined worksheets

J-ISIS Web Application

The screenshot displays the J-ISIS Web Application interface. At the top, there is a navigation bar with tabs for Database, Browse, Edit, Search, and Contact. Below this is a control bar containing a search input field with the number '7', a 'Go' button, and several navigation icons. A dropdown menu is open, showing a list of worksheets: '1 Livello moderno' (selected), '2 Livello moderno', 'ALL', 'Antico 1 Liv', 'Antico 2 Liv', 'Autori', 'Default worksheet', 'Descrittori', 'Gestionale', 'Periodici', 'prova', and 'Spogli'. Below the control bar, the database information 'dbHome=DEF_HOME dbName= BIBLO' is visible. The main area is titled 'J-ISIS Data Entry' and contains a table with columns 'Label', 'Tag', and 'Ind'. The table contains the following data:

Label	Tag	Ind
N. d'ingresso/n. agenzia	1	020243
Tipologia del materiale	700	am
Lingua	101	ITA
Paese	102	IT
Biblioteca titolare	712	FE011
Collocazione	741	^D234.2^IMAL FED
Titolo/resp. 1º livello	11	^TFede e impegno cristiano^RLeopold Malevez

Web-JISIS with Digital Library

Search supported by dynamic suggestion lists

Example Digital Library result

J-ISIS Search Form - Mozilla Firefox

127.0.0.1:8080/Web-JISIS3/doEnterQuery.action

J-ISIS Web Application

Database Browse Edit Search Contact

Match Option: Match All of the Following Match Any of the Following

<All Searchable Fields> Matching abc

<All Searchable Fields> Matching 10(0)1 abc

<All Searchable Fields> Matching 10(0)2 abcd

<All Searchable Fields> Matching 10(0)1 ABCD

<All Searchable Fields> Matching 10(0)1 ABCD_start.bat

<All Searchable Fields> Matching 10(0)2 ABCDE

10(0)1 abcdefghijklmnop1234

10(0)1 abcdefghijklmnopxyz1234

10(0)1 abcdefghijklmnop12345678

10(0)1 abcdefghijklmnop12345678

Search

Footer

J-ISIS Web Application

Database Browse Edit Search Contact

10(0)1 abc

10(0)2 abcd

10(0)1 ABCD

10(0)1 ABCD_start.bat

10(0)2 ABCDE

10(0)1 abcdefghijklmnop1234

10(0)1 abcdefghijklmnopxyz1234

10(0)1 abcdefghijklmnop12345678

10(0)1 abcdefghijklmnop12345678

Search

1 records found:

7

RECORD(7)

Tag	Field/Occurrence
	<<
	<i>The abc of ABCD : the Reference Manual</i>
	<i>Version 1.0</i>
	<i>Egbert de Smet</i>
	<i>Publication date December 3, 2009</i>

Some concluding remarks/evaluation

+

- Builds upon WinISIS
- Adds WWW-technology/XHTML
- Proven technologies : Java, Lucene, Berkely DB...
- Fully multi-platform
- No more limits re capacity
- Both desktop and WWW-client are available
- ISIS core elements (concepts, Formatting Language) preserved

=> All an ISIS-user can wish ?

-

- Interfaces for both Desktop and WWW not fully polished/decorated
- Real library functions (e.g. Loans, acquisitions) not yet implemented (Louvre?)
- No direct compatibility with old ISIS-technology
- Cold-water fear of existing ISIS-users
- Limited developer's team (J-C Dauphin + ?)

Practical information

- J-ISIS website :

<http://www.kenai.com/projects/j-isis>

for downloads, forum and support and documentation

- Full manuals : <https://kenai.com/projects/j-isis/downloads/download/J-ISIS%20Quick%20Tutorial%2021%20December%202012.pdf>

- Author : Jean-Claude Dauphin, previously ISIS-officer at UNESCO headquarters (jc.dauphin@gmail.com)