



J-ISIS (Java ISIS)

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QUICK BACKGROUND

- Of all the software tools developed and distributed free-of-charge by UNESCO,
- the most popular has been the CDS/ISIS software for creating, updating and searching textual databases.

How Many Users of CDS/ISIS ?

- ❑ 250,000, 500,000, Millions, ??? institutions and individuals using this software
- ❑ the real number of beneficiaries can be multiplied exponentially!
- ❑ 50 downloads per day of CDS/ISIS



J-ISIS PROJECT MISSION AND GOALS

- ❑ new multiplatform Free and Open Source Software (FOSS) ISIS suite
- ❑ same successful concepts and functionalities as the actual UNESCO ISIS suite



J-ISIS PROJECT MISSION AND GOALS

- removing the restrictions,
- Client/Server,
- UNICODE,
- and benefiting of the latest software developments



J-ISIS Project Main Objectives

- keep the assets and experience of the users.
- develop a long-term solution that would be modular, easy maintainable and extensible.



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Third Party Open Source Libraries

- Nobody writes software entirely in-house anymore
- Almost everyone relies upon libraries and frameworks written by someone else.
- By using them, it is possible to concentrate on the actual logic of the application while reusing the infrastructure frameworks, and libraries written and provided by others.



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Java programming language to be multiplatform (Windows, Linux, Mac OS X, etc...).

- Simple
- Object oriented
- Portable, Robust
- Dynamic,
Secure
- Open Source
- Architecture neutral
- Distributed,
- High performance,
- Multithreaded

Sun Netbeans platform for building modular applications

- ❑ The Netbeans Platform Container manages the modules, they can be updated from an update center and developed separately.
- ❑ Part of the Netbeans platform is also re-used for the Graphical User Interface and Internationalization.



Netbeans Platform

<http://platform.netbeans.org/>

- The NetBeans Platform is a generic framework for Swing applications.
- First and foremost, it addresses the requirement of nearly every desktop application to have a set of basic components, such as a menu bar, toolbar, and windowing system.

Open Source Libraries used by the J-ISIS Engine

- The Berkeley DB that can manage variable-length records,
- Lucene for indexing and searching,
- MARC4J for ISO2709 and MARC I/O,
- JFlex and JCup for generating from a grammar the print formatting language lexer and parsers,

JDesktop Integration Components (JDIC)

- ❑ the JDIC project WebBrowser component allows to use a native Web Browser based on IE or Mozilla
- ❑ Used for displaying Print Format Output, thus allowing to use XHTML and JavaScript



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Open Source Libraries

Berkeley DB

<http://www.oracle.com/technology/products/berkeley-db/db/index.html>

Lucene

<http://lucene.apache.org/java/docs/index.html>

MARC4J <http://marc4j.tigris.org/>

JFlex <http://jflex.de/>

Java Cup

<http://www.cs.princeton.edu/~appel/modern/java/CUP/>



J-ISIS Database Server

- ❑ Scalable NIO server that uses multiplexing and can then accept thousands of clients.
- ❑ It uses the Java New I/O (NIO) packages introduced in J2SE 1.4.
- ❑ <http://gee.cs.oswego.edu/dl/cpjslides/nio.pdf> Scalable IO in Java

Further Development Envisaged

- ❑ Servlets that would allow to access the Database Server by means of an application server such as Apache Tomcat or GlassFish
- ❑ A Rich Client Desktop client application that will use http tunneling to communicate between the client and the database server through a middle-tier application server servlet that will work as a proxy.



Further Development Envisaged

- ❑ A Web Browser AJAX client application based upon the Google Web Toolkit (GWT) that provides a coherent AJAX development environment.



Publishing J-ISIS Project as an Open Source Project

- Project will be hosted on Sun Microsystems Java.net web site to involve the java communities
- Project will be published after releasing the first Beta version planned for end 2008.



Sun Microsystems Partnership

- ❑ J-ISIS uses mainly open source technologies developed by Sun Microsystems
- ❑ UNESCO is negotiating a Memorandum of Understanding between UNESCO and Sun Microsystems



Sun Microsystems Partnership

- The mission of the Sun Microsystems company is to enable people and worldwide businesses to realize their full potential through the use of innovative information technology.



Sun Microsystems Partnership

- ❑ As an international corporate citizen of conscience, the firm is committed to Free and Open Source Software and is thus massively connected to the participation age economy, the ideal development and business model for today massively connected, Participation Age economy.



Sun Microsystems Partnership

- The open source model offers liberties to every user and developer who act for a genuinely collaborative innovation



SOURCE CODE

- The whole source will be provided as a NETBEANS project including the 3rd parties open source libraries.



LICENSE

- ❑ The J-ISIS project is free software, published under the terms of the GNU General Public License.
- ❑ There is absolutely NO WARRANTY for J-ISIS, its code and its documentation.



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HOW TO PARTICIPATE

We have identified the following roles:

- project managers
- developers
- testers
- users
- documentation writers
- Translators



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Help Wanted

- Peer Review
- Refactoring
- Testing
- Further development
- Documentation writing
- Translation



Skills required to work on J-ISIS project.

- Java Programming, JSE, J2EE
- Rich Client Programming with NETBEANS PLATFORM
- UI programming with Swing
- Good knowledge of the CDS/ISIS Software suite and Library automation
- Client/Server architecture using Java New I/O (NIO) packages introduced in J2SE 1.4.



Skills required to work on J-ISIS project

- Berkeley DB Java Edition
- Lucene for indexing and searching
- Bibliographic Formats such as Marc21, ISO2709, etc
- JFlex and JCup
- Development of Servlets to access the Database Server
- Development of Web Browser AJAX client application based upon the Google Web Toolkit (GWT)



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