

# **An Intelligent Information Retrieval System based on Meta-Search Engine (IIRS-MSE)**

**Vision and Scope (Example)**

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### **Change History**

<b>Date</b>	<b>Summary</b>	<b>Person</b>
3/29/07	Initial version	Paul Drumm
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# **1 Business Requirements**

## **1.1 Background**

A Wall Street Company has hired Global Inventory Inc. to build and deliver a new integrated information retrieval system. Global Inventory Inc. was chosen due greatly to the fact that our company is in a strong position in the search engine market and employs some of the world's leading specialists in the field.

The system's main objective is to provide fund managers in this investment company with the necessary investment related information to manage their funds. In its later releases it will also provide the tools needed by private investors to make investment decisions.

This information includes financial data stored in a database, news articles provided by major news providers like Reuters, the text documents stored in the company's internal storage, and the text or web documents retrieved from the popular search engine like Google or Yahoo.

This is to be achieved by creating an integrated information search system using meta-search engine and text data analysis based on text-mining and data-mining approaches.

## **1.2 Business Opportunity**

The Current system lacks in functionality, the fund manager is generally unable to retrieve all pertinent information related to the targeted companies. The use of the current system is also quite time consuming therefore making it difficult for the fund manager to make critical decisions in a timely manner since they currently gather the data themselves from the different sources.

## **1.3 Business Objectives and Success Criteria**

BO 1: To provide the investment company the means to reach a competitive edge over the competition and to increase its market share by 5% of the private investors who invest in stocks and mutual funds independently.

BO 2: To reduce research time spent on a given investment by 25% for fund managers.

SC 1: To deliver the first release of this system that meets the requirements stated in the SRS document by April 30<sup>th</sup> 2008.

SC 2: To have 50% of fund managers trained and use the system successfully, as determined by BO 2 within 40 days of its installation.

## **1.4 Customer Needs**

The customer needs a system that

- Provides fund managers in its first release and investors in its second with financial related data that helps them make better decisions more quickly that could lead to more accurate predictions and better performing funds.
- Ease of use and timely delivery of search results.
- Data mining and text mining capabilities that interface with major commercial search engines and news feed which provide indexing of documents.

## **1.5 Business Risks**

RI-1: Meta-search engine knowledge is a scarce resource and Global Inventory must rely on third party vendors to provide the search functionality.

RI-2: Financial related requirements are to be gathered from the Wall Street Company. Financial companies are usually very busy and their lack of time and commitment to the project may lead to insufficient and under specified requirements. The project's success relies on commitment from the financial institution and availability of resources to the project group on request.

RI-3: Search results must be accurate and the system must respond within defined intervals of time. Inaccurate information and search results may lead to erroneous decisions by the user which in turn may lead to great financial losses.

RI-4: The system must be able to integrate and get prompt responses from third party services. The service providers can be located in remote locations (e.g., different states or countries). Poor performance from third party services will influence the end-user experience.

# **2 Vision of the Solution**

## **2.1 Vision Statement**

The IIRS-MSE system will provide fund managers or investors with an aggregated research system that combines data from documents, preferred news feeds, and commercial internet search engines, all in accordance with applicable federal, state, and local regulations. The system will provide them with the ability to research necessary investment related information in a timely fashion and give them the ability to analyze data necessary to support their business function.

## **2.2 Major Features**

FE-1: Financial data feeder.

FE-2: Databases that stores investment data received from the news feeds, customer data, and external documents from meta-data search retrieval.

FE-3: Indexing system for fast text search by keywords.

FE-4: Text-mining and data mining subsystems.

FE-5: Meta-search engine.

FE-6: Ontology and dictionary used for text mining.

FE-7: Third party search engine services.

FE-8: Browser and stand alone graphical user interface.

FE-9: Security and SOX control features.

FE-10: Ability to store research meta-data in a hierarchal fashion.

FE-11: Ability to send alerts via email after setting thresholds on research entities.

FE-12: Ability for Investors to use features.

## **2.3 Assumptions and Dependencies**

AS-1: Most finance related requirements can be obtained from the investment company. Global Inventory Inc. is responsible for collecting other non-financial related information.

AS-2: All users of the product have broadband internet access of at least 50 kb/s.

AS-3: Search engine data is processed within 24 hours.

DE-1: Once the product is released, additional feedback may come from fund managers.

DE-2: The system must pass an external SOX and security audit by Ernst and Young.

### 3 Scope and Limitations

#### 3.1 *Scope of Initial and Subsequent Releases*

Feature	Release 1	Release 2
FE-1	Fully implemented	
FE-2	Partially implemented – no customer data on first release	Fully implemented
FE-3	Fully implemented	
FE-4	Fully implemented	
FE-5	Fully implemented	
FE-6	Fully implemented	
FE-7	Partially implemented – only one search engine included in order to tune system	Fully implemented
FE-8	Partially implemented – Windowed based UI only	Fully implemented
FE-9	Fully implemented	
FE-10	Fully implemented	Fully implemented
FE-11	Partially implemented on security and SOX alerts	Fully Implemented
FE-12	Not implemented	Fully Implemented pending SOX and security audits

#### 3.2 *Limitations and Exclusions*

LI-1: Global Inventory Inc. is not to develop a Meta search engine and is dependent on third party vendors.

LI-2: Any features that interface with the investor or fund manager may be subject to approval by the Security Officer, SOX Officer, federal, state, or local regulations, and/or by the advice of internal or external counsel.

## 4 Business Context

### 4.1 Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Board of Directors	improved employee productivity and ability to market soft product on a contractual basis	Strong support of the IIS-MSE initiative	ROI should exceed system cost within 2 years	Must complete release one within one week of schedule
Fund manager	Ease of use and less time spent consolidating data. Will further offload workload once release 2 arrives	Some concern about misinterpretation of data by investors	Ability to consolidate meta-data on specific research project	None identified
Investor	Ability to research fund data before talking to fund manager. Ability to make decisions quicker.	Need a help system to better understand financial terms	Ease of access	SOX and security compliance
Database Manager	Data consolidation	Less time spent with fund managers individually on consolidating data. Concerned with learning curve of new system	Aggregation of data and user interface	None identified
Security Officer	Single gateway for authentication and authorization. Auditing tables are available for most queries and object access.	Wants it in place yesterday	Security Auditing	Must sign off on certain aspects of project
SOX Officer	Single access points for changes and updates	Although a single access point is desirable it may give too much power to one individual	Ability to audit changes in on single location	Has ability to reject system if it does not meet SOX audit

## 4.2 Project Priorities

Dimension	Driver	Constraint	Degree of Freedom
<b>Schedule</b>			release 1 planned to be available by 4/30/08, release 2 by 5/30/08; overrun of up to 1 week acceptable without sponsor review
<b>Features</b>		All features scheduled for release 1.0 must be fully operational	
<b>Quality</b>		95% of user acceptance tests must pass; 100% of all security tests must pass; compliance with corporate security and SOX standards must be demonstrated for all features	
<b>Staff</b>	<i>projected team size is 1 full-time project manager, 4 developers, 1 full-time tester; 1 architect, 1 business analyst, 1 quality control/SOX specialist</i>		
<b>Cost</b>			budget overrun up to 35% is acceptable without sponsor review

## 4.3 Operating Environment

Refer to Software Requirement Specification Document