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A Semantic Web for Financial Content Management System

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Abstract— A Content Management System (CMS) to create, manage, store and deploy content on web pages. Web content includes text and embedded graphics, photos, video, audio, and code that displays content or interacts with the user. Content should be updating automatically without human interaction. Semantic web has been helped to update content automatically with high quality of information. Semantic web Meta data has been customized according to the specific domain. It extracts metadata for each discovered domain specific contents, and computes relations between contents. Discovered content are also indexed by an information retrieval system which can use either character URIrefs as keywords to find relevant information and to compute the similarity among a set of data's. One of the interesting properties we compute is rank, a measure of the importance of a semantic web document. This article has been taken financial domain to find the semantic web Meta data based data from internet.

Keywords— semantic web, content management system, financial data, Meta data

I. PREAMBLE

The clients are in the business of selling information to their customers. Their customers use that information for business, educational or research purposes to make decisions, find contacts, develop ideas and/or learn about their market. Information is only valuable if it is accurate, inaccurate information can be very damaging to a business, especially make key strategic decisions based on that information. So, our clients are always looking for a way of ensuring that the information they provide is accurate. The problem with "updating" is that by definition it assumes the information is inaccurate - that's why it needs to be updated! This is almost always true; the time period between printed publications in the database world was usually a year (annual directories being the norm), so by the time the information was due for publication again it was a year old and invariably a good proportion of it was inaccurate. As Heraclitus said (and said often and in many different ways); "There is nothing permanent except change".

Nowadays, most of our clients distribute and publish their information via the Internet and the delays forced by periodical print publishing are no longer relevant. However, many of our clients still use the concept of "updating" the information as the core editorial process. However, this is a flawed viewpoint. All it takes is a simple question to uncover the flaw - why are letting it become inaccurate in the first place. The real question for our customers is how keeping the information up-to-date, so don't have to "update" it. This is a fundamental shift in editorial approach to information management, and not one our customers are making easily. They still have budgets and a mindset that makes them think in terms of periodic updating, rather than a mindset that makes them think in terms of keeping up-to-date. However, sales and customer pressure will gradually force them to address this problem, or at the very least make them very aware of it. What this means is that need to get away from the mindset of "updating" and move aggressively toward solutions and processes designed to keep information up-to-date. This means constant monitoring, checking, extracting and a flow of information into database environments to enable matching and identification of change.

A research is research the existing things and invented new then implemented to real world application and increases the business profits. Current system that is web 2.0 have unstructured data and some of the technology only find the grammar check between the data not relationship between the data. There is no way to update the information automatically and uniqueness of the information. Major technology in the proposed work is semantic web and its Meta data. Using different way of security systems and implemented real world content management system.

To date, Semantic Web research has tended to focus on data modeling challenges, at the expense of software architecture and engineering issues. Our empirical analysis shows that implementing Semantic Web technologies creates challenges which can affect the whole application. Standard solutions and best practices for Semantic Web technologies are just emerging. The lack of these has been an obstacle for implementing and deploying applications which exploit Semantic Web technologies for real world use cases.

II. PRESENTED SYSTEM

World Wide Web is growing at an alarming rate. It is composed of documents written in Hypertext Markup Language (HTML) which is a huge repository of unstructured data. Everyday thousands of pages are added. Managing this large amount of data is a formidable task. Information in the current web is only for human consumption. This has made extracting information difficult. Users can always finding the changes occur on that web site and update into their CMS database. This is not possible to monitor the every change on the website. Our goals used new technology and

avoid this kind of problem and increase the business profit. So planned to implement the semantic web technology to CMS has a proposed system. Looking at the existing investments into information technology, Semantic Web technologies help separate meanings from data, document content, or application code, using technologies based on open standards. If a computer understands the *semantics* of a document, it doesn't just interpret the series of characters that make up that document it understands the document's *meaning*. The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries. Think of the Semantic Web as an efficient way to represent data on the World Wide Web, or as a database that is globally linked, in a manner understandable by machines, to the content of documents on the Web. Semantic technologies represent meaning using *ontologies* and provide reasoning through the relationships, rules, logic, and conditions represented in those ontologies.

Proposed system has restructured / customized the semantic web meta data and implement various part of the application. All process has been completed, and then finds the way of protecting the information from hacker and data harvesting tools. The new ways of security system implement. Upcoming chapter are explained technology that is customized semantic web Meta data. Semantic has played these all technologies and its working style with high-end security system. This proposed technology and concepts to implementing the financial domain.

III. FUTURE SYSTEM

A main objective of the article is implement semantic web concepts to real word CMS and increase business opportunity. Semantic web architecture and applications are a dramatic departure from earlier database and applications generations. Semantic processing includes these earlier statistical and natural language techniques, and enhances these with semantic processing tools. First, Semantic Web architecture is the automated conversion and storage of unstructured text sources in a semantic web database. Second, Semantic Web applications automatically extract and process the concepts and context in the database in a range of highly flexible tools. There is substantial and convincing evidence that the goals that lead people to engage in information behavior, the tasks associated with those goals, and with their behaviors, and the intentions underlying the behaviors, substantially affect their judgments of usefulness of information objects, and the ways in which they interact (or would wish to interact) with information objects.

IV. APPLICATION OVERVIEW

Create a dynamic service to track, identify, and publish up-to-date information on the financial information search industry. To establish reactive updating in place of pro-active updating.

This system uses advanced text analytics and data mining to combine a broad, dynamic reach with accurate processing and conversion of unstructured event descriptions into data. This efficiently reduces human intervention and improves accuracy. The system works by tracking and processing hundreds of thousands of websites and feeds daily, deploying EMAC system to ‘understand’ and match events described in content to subjects held in a fielded database. Events such as financial changes, mergers and acquisitions, product launches and customer announcements are tracked and converted into data, then written to the subject database. Researchers check and validate changes based on a statistically controlled workflow, ensuring the right level of accuracy is maintained at all times. All of this happens in real-time. Therefore, data owners who need to maintain the accuracy of a business database can ‘plug’ this service into their database and feed ongoing data appends into the core database. Real-time data updating can be deployed as a complete data maintenance strategy for business databases, or can form a key part of a larger accuracy maintenance strategy that can include proactive research teams. EMAC stands for Entity Matching and Conversion. This is proprietary information processing engine designed to track, analyze and convert information from unstructured sources to fielded form.

The system has three main components:

Tracking - our information collection system monitors and processes millions of web feeds and sites.

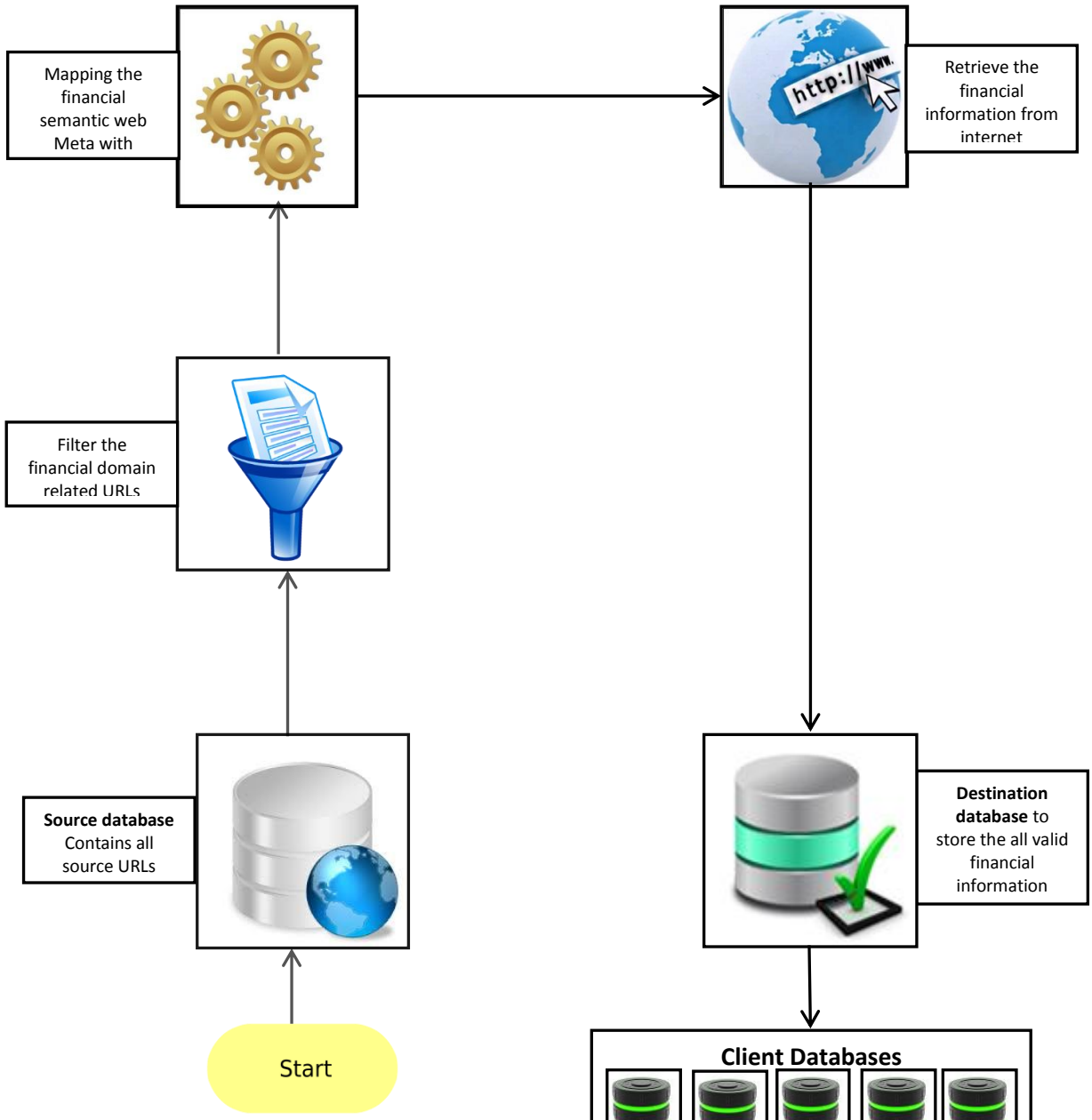
Analysis - this core component of the system deploys our proprietary semantic indexing system with a highly developed custom ontology.

Conversion - this hybrid module enables conversion of identified events into fielded data

Builds custom and standard reporting and delivery applications on top of the core EMAC engine to serve specific markets, customer or project needs. Here is screen shots is real world financial CMS and its show the financial data which is implemented semantic web Meta data.

Google has been displayed current share market information. Our goal is to display same information into our financial CMS application automatically with accurate information. It has been used harvest the financial data based semantic Meta data

Process diagram of financial CMS



Name	Symbol	Last price	Change
Infosys Ltd	INFY	2,908.00	+6.05 (0.21%)
Tata Consultancy...	TCS	1,783.00	+33.20 (1.90%)
Wipro Limited	WIPRO	392.00	+7.80 (2.03%)

Fig. 1 data taken from google finance web site

Fig. 2 data taken from CMS database

Fig. 3 a map has been displayed before search

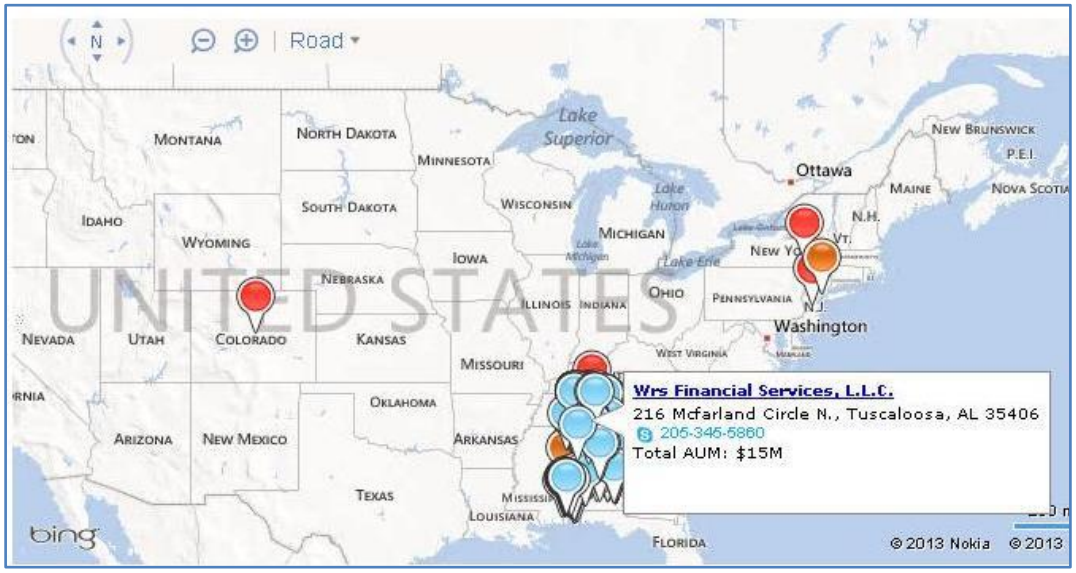


Fig. 4 Financial industry has been marked after search (Search criteria: Invests in mutual funds companies only)

V. CONCLUSION

The system works by tracking and processing hundreds of thousands of websites and feeds daily, deploying EMAC system to 'understand' and match events described in content to subjects held in a fielded database. Events such as financial changes, mergers and acquisitions, product launches and customer announcements are tracked and converted into data, then written to the subject database. Researchers check and validate changes based on a statistically controlled workflow, ensuring the right level of accuracy is maintained at all times. Semantic web technology implemented content management system. The Figure 1 and 4 showed semantic web outputs and implemented proposed security system and customized ontology. The system has successfully processed more than thousand articles information with 98% accuracy of the data.

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