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Implementation of Dry – A Principle Software Engineering on Web Server Data

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Abstract: DRY stands for "Do not Repeat Yourself" A fundamental principle of good software and systems development. The term was coined by Dave Thomas and Andy Hunt in their famous book The Pragmatic Programmer. This theory states that there should be only one and only one authoritative and unambiguous representation of data within the system. This principle is very much used while designing the conceptual schema in the database management system (DBMS). Data duplication is the major issue on the website. The implementation of DRY modus operandi is the biggest challenge in the present scenario. This manuscript is specifically examines the vexing of data duplication such as discrepancy, inconsistency of data, and other cascaded effect of data in an organisation. The Data duplication is also called as duplicate content which is available on multiple uniform resource locators over the web, this leads to pragmatic problems such as during search over the web, the search engine will not be able to decide which information needs to be listed first. Further possible solution to this duplicity problem is addressed in this manuscript.

Keywords: Data Duplication, Deduplication, Do not Repeat Yourself (DRY), Database Management System (DBMS), Data Redundancy.

I. INTRODUCTION

The problem connected with the data is the data duplication over the various uniform resource locators (URL) across the web and is the area of concern in the present Digital infrastructure world.

The Master data management (MDM) is the kernel process used to manage, supervise, systematize, centralize, categorize, localize, synchronize and boost master data according to the business policy of the sales, promotion and operational strategies of a particular company.

II. CASCADED EFFECT OF DATA DUPLICITY

The data duplication has a cascaded effect in an organisation where the data is the base to prepare various types of reports. If there is data duplicity then all the successive reports generated by the fundamental data will become error prone.

Yet many businesses suffer from this affliction, in which information about the same customer or product, for example, appears in multiple systems and in multiple formats across the company and simply does not tally from system to system. This undermines reporting initiatives and can seriously impede managers' efforts to make sound strategic decisions.

Data quality issues remain the utmost problems in an Organization that have scattered information systems running in disparate business units and departments. The silo management of these information systems has led to a data quality issues such as data redundancies and inconsistencies. By having MDM, it is expected that the problem of data redundancies and inconsistencies can be further reduced [3][4] [5].

III. METHODOLOGY

MDM is evaluated under the Information Systems (IS), Information Technology (IT) and Data Management field of studies [6]–[8]. Fig. 1 shows the graphic overview of the number of related articles per by year, regardless of the publication type. The MDM topic received increasing interest from 2004 in parallel with Big Data Era, whereas starting from 2010 to 2014 the interest was decreased and slightly rose again until 2015.[6]

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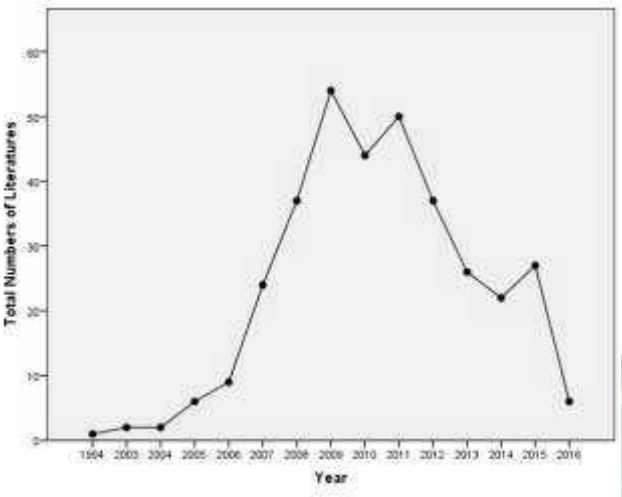


Fig. 1. Articles distribution by Publication Year [6]

On the contrary, organisations spent millions of pounds throughout the 1990s on enterprise resource planning (ERP) suites that promised to provide a central, consistent set of enterprise data.

The problem with this was that the vast majority of businesses needed to implement additional software products after the ERP system was introduced, and each new system would have its own database, data format and, frequently, its own version of data that appeared elsewhere.

Enter master data management (MDM). This is a practice and technology that aims to help businesses improve data consistency and accuracy across all systems and divisions, and also identifies and manages the complex web of relationships that often exists between disparate data elements.

This acts as a central repository, which is used to populate all other applications, says Dave Evans, senior data management consultant at BT.

"In that way, we eliminate easy mistakes that cost us money - such as an engineer turning up at the wrong address. Mistakes like that really demonstrate the importance of data quality," he says.

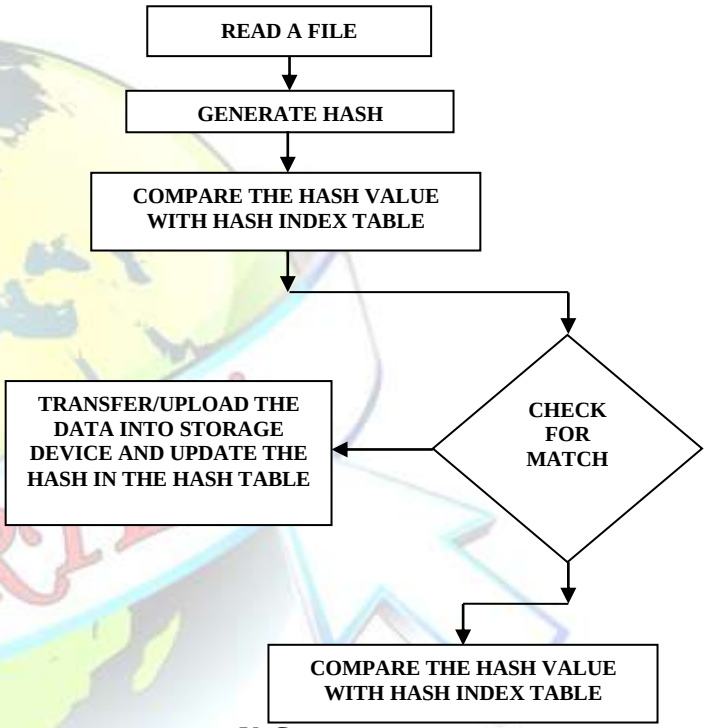
Xerox Europe, meanwhile, is using MDM to standardise data held by each of its 16 in-country operations before loading the data into a single instance of SAP.

"On average, we have found that in the best countries about 10% of the data is duplicated. In the worst countries it is about 30%," says Andy Bloomfield, SAP deployment manager at Xerox Europe.

"We need to consolidate that all into a single, reliable source of information - but that is quite a big operation, so we need all the automation that technology can provide," he says.

But MDM goes way beyond a one-time clean-up operation for enterprise data. In essence, it is about centrally controlling definitions and formats for a wide range of data entities in order to achieve harmony across multiple systems on an ongoing basis.

IV. Data Deduplication Flow Chart



V. Conclusion

Data deduplication is the one of the key technique and showing promising results.

A massive data clean-up is now under way, using automated technology that brings together and consolidates matching records. When agreed thresholds for matches are not reached, the system marks the records up as "suspect" and flags them for human intervention.

In the present scenario the MDM has gained attention in the industry, business and other sectors. MDM is not only a technology its a modus operandi or a paradigm, has a several functionalities which enhances the data quality. It is advised to refer or analyse the MDM research papers, articles and thesis.

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