Garment Company Automation Using the Concept Of Big Data And Open Source Software

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ABSTRACT: In India, mainly in Tamil Nadu, garment companies play a major role to increase the export economy. And also these companies provide many job opportunities to the peoples. There are number of garment companies available all over the world. There are many process are done in these companies to manufacture their product and there are many other sub-companies related in these process. Every garment manufacturing company consists of number of departments and a large number of employees. And also they take orders different buyers from different countries. Every garment company must keep a data base management system to store and manage the data about buyers, orders, daily process in each department, employee details, pay-roll details, etc.

I. INTRODUCTION

Now-a-days many garment companies use paper-based system and MS-Excel to manage their data bases and some companies use number of software created by using Visual Basics to maintain the over all process using different data base management systems. The usage of number of data base management systems in a same company is more expensive and it has many drawbacks such as data inconsistency, inefficiency, unsecure, etc.

The proposed system would overcome all the drawbacks of the existing system. In purposed system by using the concept of big data we can store and maintain all the data required in an efficient way. This system is more secure and increases the productivity of the company. This system can be introduced to garment company owners in all over the world. The companies which already use VB systems are also willing to buy a new system which can reduce the cost.

We are planning to implement this system using open source software such as PHP and MySQL. After install, the customer can use this system efficiently until a new version of this system is introduced. The main competitor in this system is the systems created by using VB. The VB systems do not maintain all the databases in same software. Instead they use number of software to maintain separate databases. This leads the company owner to spend Lakhs of money only to buy this software.

As the proposed system use open source software and big data concept we can overcome all the above drawbacks and we can meet the company requirements. We can reach our customers by introducing this software using advertisements, through internet and also by conducting awareness programs. This system can be introduced to market as a software package in a CD, and also we can make it available the customer to download this system from internet by using credit cards. This system is very useful to garment manufacturing companies all over the world.

II. DATABASE MANAGEMENT SYSTEM (DBMS):

A Database is a structured collection of records or data. Database management system is computer software made for organizing, analyzing and modifying the information stored in a database. It is a collection of interrelated data. It consists of set of programs to access the data. DBMS contains information about a particular enterprise. DBMS provides an environment that it both convenient and efficient to use.

III. PURPOSE OF DATABASE SYSTEMS:

➢   Data redundancy and inconsistency
➢   Difficulty in accessing data
➢   Data isolation – multiple files and formats

➢   Integrity problems
➢   Concurrent access by multiple users
➢   Security problems

IV.   DBMS IN OPEN SOURCE

Open source is software that users are free to run, copy, distribute, study, change and improve. It is easy to understand and use. Here we use LAMP (Linux, Apache Web server, MySQL database and the PHP/Python/Perl development languages) to develop this project. It is a collective of open source software that can be used to deploy applications with minimal cost.
MySQL:
MySQL is the world's most popular Open Source database software. It is a key part of LAMP (Linux, Apache, MySQL, PHP/Perl/ Python).It is lower cost and freedom from platform lock-in. MySQL Enterprise Edition includes a comprehensive set of advanced features, management tools &technical support.

V.BIG DATA

"Big data," it means data that's *too big, too fast,* or *too hard* for existing tools to process. "Too big" means that organizations increasingly must deal with pet byte-scale collections of data that come from click streams, transaction histories, sensors, and elsewhere. "Too fast" means that not only is data big, but it must be processed quickly. "Too hard" is a catchall for data that doesn't fit neatly into an existing processing tool or that needs some kind of analysis that existing tools can't readily provide.
   "Three Vs" — volume, velocity, and Variety report being able to handle multi-pet byte databases.
First, databases must slowly import data into a native representation before they can be queried, limiting their ability to handle streaming data. The database community has widely studied streaming technologies, which don't   integrate well into the relational engines themselves. Second, although engines provide some support for in-database statistics and modelling, these efforts haven't been widely adopted and, as a general rule, don't parallelize effectively to massive quantities of data. This means they simply provide access to a collection of files; users must ensure that those files are consistent, maintain them over time, and ensure that programs written over the data continue to work even as the data evolves.

VI.   EXISTING SYSTEM AND ITS PROBLEMS

To maintain different databases, garment manufacturing companies use the following systems:
➢   Paper based.
➢   MS-Excel.
➢   VB software.

These systems have following problems.
➢   High Cost.
➢   Fewer amounts of data.
➢   Not reliable.
➢   Need large space and time.

VII.   PROPOSED SYSTEM

   The proposed system is implemented using PHP and MySQL to reduce the cost and to increase the reliability.
   In this system we combine all modulus together to reduce the space and time complexity. This system can store large amount of data in a more efficient way. Our aim of introducing this system is to overcome all the drawbacks of the existing system. The proposed system is fully computerized. It can be access any where inside the organization.

VIII.   PROJECT OBJECTIVES

The ultimate goal of the project is to fully computerized the current stock management system. The objectives is divided into two parts

1) The functional objectives.
2) The technical objectives.

Functional objectives:

The functional objectives are-

i)   Try to maximize the use of tabulation system.
ii) To provide information in minimum time and also with minimum effort.
iii) Try to avoid human committed errors and misclassification as far as possible.
iv) Try to offer better services in comparison with the services offered by the present system.
v)   To make the whole process error free, reliable and fast.
vi) To ensure the avoidance of the duplication of the various process.
vii) To build up a fully multi user system.

Technical objectives:

The technical objectives are additional to user's performance and functional objectives. These needs influence design decision and the cost benefit trade of decision that should strongly be considered by the numbers of project term during the design stage of the project. The technical objectives considered in this project are as follows

i)   To design the project with the flexibility so that it can be changed in future and thus making an extension of the expected life of the system.
ii)   To make the system easily maintainable so that the workers and users of the system can handle the system satisfactorily with easy and convenience.
iii) To schedule the project efficiently so that the administration can provide the cost systematically and the time used for the development of the system should not take too long unnecessarily.
iv)   To design the system smartly and efficiently so that it can become an ideal system for the purpose of use and study.
v)   To design the system such that in future it can be used as a sub system.
vi)   To build the system with security consideration for mainly the administration part of the system.
vii) To ensure the reliability of this system i.e. the hardware or software failure, action can be taken.
viii) To make the design simple as far as possible since the web based computerized multi user system is being considered for the first time and the simplicity will be very helpful for untrained users and operators of the system.
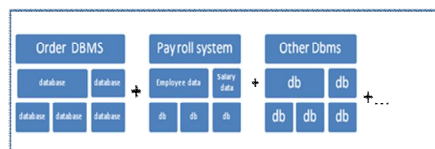

Fig. 1. Main Idea of the project.

IX.   REQUIREMENTS SPECIFICATION

- 'Goods Name' is the goods what are issued, given entry, exported or given requisition for the factory.
- The 'Date' when the goods/parts Entry, Issue, Export, Requisition and Final goods/Product stocked in the store of the factory.
- 'Receipts quantity' is the quantity that is received for on a particular goods/parts.
- 'Chelan Number' is the number on the memo provided by the supplier.
- 'Supplier' whose company supplied particular goods/parts.
- 'Rate' is the unit price of particular goods/parts.
- 'Remarks' is the any comments of store officer on goods/parts.

X.   TECHNOLOGY

In this system we use open source technology. Here we use PHP as front-end and MySQL as back-end. XHTML coding is used as client side scripting. Here we use password to protect our system from unauthorized access. Also we are going to consider finger print technique to provide more security. This system is user friendly and it is easy and efficient to use.

XI.   PROJECT ENVIRONMENT

In this phase of SDLC different form were construct by which the user can input data to the database. Different report also developed by which the user can see the report. Here in this case I try to maintain the report form as same format as they use as usual. The purpose of the constructions phase is twofold.

1) To build and test a system that fulfils business requirements and design specification and
2) To implement the interfaces between the new system and existing systems. The hardware and software specifications are given below.

XII.   SECURITY

As this system is multi user system, its security must be high otherwise different type of unauthorized access will destroy many important data's. So the security must be so high that can prevent all kind of unauthorized access. Prevention from unauthorized access:
        This system supports different level of security that was used in MySQL. The names and passwords of all authorized persons are kept into table. Only those persons can access the database, based on their authority.
Two types of users should exist in this system.
1. Administrator: This is the highest power. This type of user can do all work that manipulator can do, moreover it can create new user which manipulator can't do. Only one person may have this type of power.
 2.   Operators: This type of user can read and write the report and also can insert data into the database. They have no access delete data into the database.

XIII.   SYSTEM IMPLEMENTATION

An important aspect of a system analyst's job is to make sure that the new design is implementation to established standard. The term implementation has different meanings, ranging from the convention of a basic application to a complete replacement of a computer system. The procedure however is virtually the same. Implementation is used here t mean the process converting a new or a revised design into an operational one.
Conversion is one aspect of implementation. The aspects are the post implementation review.
 There are three types of implementation
i)   Implementation of computer system to replace a computer system. The problems encountered are converting files, training users, creating accurate files and verifying print outs for integrity.
ii) Implementation of a new computer system to replace an existing one. This is usually a difficult conversion. If not properly planned there can be many problems. Some large computer systems have taken as a year to convert.
iii) Implementation of a modified application to replace an existing one, using the same computer. This type of conversion is relatively easy to handle, provide there are no major changes in the files.
The Candidate System:
 The system is implemented in two sections

- Database service implementation.
- User service implementation.

Database Service Implementation:

The database exists on the server. This server stores all information necessary for the system. Only the authorized members can handle that database. The information is stored in the databases named "AKR_DBMS" the input forms that were made with PHP, HTML, JavaScript; CSS update the values of tables in the database. The front-end software is connected with the back end database server by the modal form. The code of the module form determines which database is connected to this front end software.

User Service Implementation:

User services deal with the interaction between the user and the applications as well as the preparation of data for user requirements. So it is needed to create several forms. Form provides a rich set of objects that can respond to user events so that user can enable to accomplish their information management task as early as possible. Three types of forms are used here:

Input form

Output form

Report form

User's acceptance of the Candidate System:

The following feature measures the user acceptance qualities of the candidate system.

1. It is smart and efficient enough for the user.
2. It is easily maintainable.
3. Accurate and easy processing is ensured.
4. Required information is easily accessible.
5. Easily understandable.
6. It works efficiently with large number of records.
7. This system is very user friendly. One can operate this system even without much prior knowledge of the paper-based system.
8. The terms and processing sequence are made as similar as possible to the paper based system. That's why the employees who maintained the paper system doesn't feel unfamiliarity while using this computerized system.
9. Use interface, dialogues and error messages are very human friendly.

XIV. COMPARISON

Faster Execution:

    i) The candidate system will provide instant report as soon as the data will be input.

    ii) Ease of calculation.

    iii) Reducing in checking time.

    iv) Speed up operation.

Error Free:

In the existing system, due to manual operation, error can occur in any state. But the candidate system will not face this problem as it is implemented by efficient software.

Mental Satisfaction:

    i) Eliminates the manual pressure as the report is done automatically.

ii) As it is requires very small amount of times to complete the report, the concerned persons may involves their valuable times.

iii) The quick preparation of report gives mental satisfaction.

XV. BENEFITS

➢ Reduce the cost.

➢ Increase productivity.

➢ Can be changed easily.

➢ Reduce the time and paper usage.

➢   Convenient to maintain and update.
➢   Can access remotely.
➢   Can be expanded without considerable effort.

XVI.   CONCLUSION

The computing world has a lot to gain from Database Management System. This developed Database Management System will be a solution for Garments Management System. The limitation of this software may be treated, as there is no high secured. In future the overall process of this software will be secured. Though this software is faced one limitation but it is still very smart and efficient enough for the user and also it is easily maintainable. It reduced the excess cost and time and save the data in a standard form. It works efficiently with large number of records. Thus this system will play a very efficient and a vital role on the Data Base Management for AKR Textile.