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Inventory Control System

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Abstract—*An integrated package of hardware and software including all the control systems to monitor the quantity, location and status of inventory can be termed as Inventory Control System. Day by day "update" keyword is becoming a necessity in all sought of things be it any household item or a software. We need to adapt new technology to survive in the world of competitors by enhancing the earlier version of software.*

The system is capable of keeping a log of spares available and is intelligent enough to tell which spare have been taken from which supplier and in which quantity plus the amount of spares being sold to individual customer under what requirement. Also, an indication would be provided by the system to get an acknowledged about the number of available for individual sectors including its price which can be helpful for us in deciding our selling profit. An Inventory Control System includes java source code, class files, odbc, .mdb, Ms-Access file. The connectivity of Net Beans software with Ms-Access will be done via JDBC.

Keywords*: ODBC, JDBC, Net Beans.*

1. INTRODUCTION

The present manual Inventory Control System for a Company's Strategic Goals requires daily updating of a number of registers. It requires huge manpower, effort and money. Even though, Maintenance of registers is not done properly. This system results in transformation from conventional type system to computerized system with day-to-day information. It deals with the whole information of the Inventory like Item details, Customer details and their Purchase, Sales Record etc. It takes a lot of space to keep the records. The Inventory Control System provides information to efficiently manage the flow of materials, effectively utilize equipment, people. Also, it coordinates internal activities and communicate with customers.

Inventory Management and the activities of Inventory Control do not make decisions or manage operations; they provide the information to Managers who make more accurate and timely decisions to manage their operations. It is strategic in the sense that top management sets goal . These include deployment strategies (Push versus Pull) , control policies , the determination of the optimal levels of order quantities and reorder points and setting safety stock levels . These levels are critical , since they are primary determinants of customer service levels. Traditional Supply Chain solutions such as Materials Requirement Planning , Inventory Control , typically focuses on implementing more rapid and efficient systems to reduce the cost of communicating information between and across the Inventory links in the SCM.COM focuses in optimizing the total investment of materials cost and workload for every Inventory item throughout the chain from procurement of raw materials to finished goods Inventory[5]. Optimization means providing a balance of supply to meet the demand at a minimum total cost , Inventory level and workload to meet customers service goal for each items in the link of Inventory Chain.

Inventory Management must tie the following objectives, to ensure that there is continuity of functions:

- To find and track down all the processing data's in an inventory system repository[6].
- Define a procedure by which assets are identified and maintained in the
- Restrict access of certain members, complete range of reports that will satisfy informational requirements[6].
- To file the Inventory Management inventory System[6].
- Provides all necessary personnel (data entry, update and deletion) [6].

System within the Standards and Procedures Manual[6].

- To provide coaching to personnel responsible for supporting the Inventory Control System[6].

2. TOOLS/PLATFORMS AND LANGUAGES

System requirements specification must reflect the actual applications to be handled by the system and including system objectives, flowcharts, input-output requirements, file structure and costs[7]. The specification must also describe each aspect of the system clarity, consistently and completely. Thus system requirement specifications are the key information for programming, testing and implementing the projects. The specification of hardware and software is as follows:

2.1. Language: Net Beans

Most developers recognize the Net Beans IDE as the original free Java IDE. The Net Beans IDE provides support for several languages (PHP, JavaFX, C/C++, JavaScript, etc) and frameworks. Net beans is an open-source project dedicated to providing rock solid software development products (the Net beans IDE and the Net beans Platform) that address the needs of developers, users and the businesses who rely on Net Beans as a basis for their products. In June 2000, Net Beans was made open source by Sun Microsystems, which remained the project sponsor until January 2010 when Sun Microsystems became a subsidiary of Oracle[8].

2.2. Hardware :

The hardware specifications are:

Processor: Pentium 800 MHz & RAM: 512 MB

Hard disk: 650 MB free disk

Mother Board: Intel 810

Monitor: SVGA color with 640×480

2.3. Software :

The software specifications are:

Back End: Ms-Access

Operating System: Windows 7, Windows XP

3. SYSTEM STUDY

The system study would be providing us with the knowledge of the existing system, its limitations and the proposed system including its objective.

3.1. Existing System

The manual system, which was being followed, involves a lot of paper work and is very hectic as such it had many other drawbacks, which are stated below. These disadvantages lead to the development to computerized drawing and painting system.

3.2. Limitations of the existing system

Time consuming: Review the overall lead time of raw material, sub assemblies and top level finished goods to find out what makes up the product overall lead time. Sometimes stocking sub assemblies can be effective depending on the labor content[9]. Company decisions need to be made concerning master scheduling finished good products.

Accuracy: Cycle counting inventory should be a vehicle to find problems with the current Inventory Control procedures. Errors should be tracked down to find out why the error exist, not just adjust the counts[9].

Impersonal Touch: Another disadvantage of inventory control is a lack of personal touch. The products are made more accessible across the globe by the large supply chain management systems. If we increase the infrastructure, it can lead to decrement in the personal touch which helps a company stand out above the rest.

Production problems: Although inventory control systems give you a better handle on the amount of stock you have, these production problems can be hidden by these systems which can further cause customer service disasters. Since, Inventory is the main focus, not quality control, so incorrect items are shipped along with correct items.

3.3. Proposed System with its objective

Considering the limitations of the manual system we have propose computerized “Inventory Control System” with the development of which we have tried to remove the limitations of the manual system.

Advantages: The advantages of the proposed system are as follows:

- It is faster as compared to the manual system
- It reduces a lot of human effort
- It is reliable, accurate and efficient to operate faster as compared to the manual system
- Adequate online inquiry is provided
- Item master file is maintained
- Facilitate purchasing
- Inventory is processed within the company

4. SYSTEM ANALYSIS

The System Analysis phase is considered to one of the most important phases in the System Development Life Cycle (SDLC). It is immensely important that the Software Developer makes through study of the existing system through study of the system is made and need i.e. features. It is a detailed study of the various operation performed by a system and their relationship within and outside of the system. During analysis, data are collected on the available files and the transaction is handled by the present system.

4.1. Initial Investigation

For the system development life cycle, initial investigation is the initial step in order to identify the need of the client/user. The objective is to determine whether the request is valid and feasible before a recommendation is reached either to improve or modify the existing system or to build a new system. In this entire business transaction and basic input/output have been studied.

4.2. Feasibility Study

We need to consider the economic, technical and legal factors in system development to do feasibility study. The most successful system projects are those that truly meets user

expectations. Failure of project is because of inflated expectations than for any other reasons. The objective of feasibility is not to solve the problem but to acquire a sense of its scope. The result of the feasibility study is a formal document detailing the nature and scope of the proposed solution.

The proposal summarizes is known and what is going to be done. It consists of the following:

- Statement of the Problem
- Summary
- Details of findings
- Recommendations and Conclusions

Economic feasibility: In economic feasibility in order to weigh the costs of developing and implementing a new system, against the benefits that would accrue from having a new system in place, the following factors are considered:

- Procurement Costs
- Startup Costs
- Project Costs
- Ongoing Costs

Technical Feasibility: In order to study technical feasibility, the following factors are considered:

- Technologies involved - Front end : Net Beans since Net Beans IDE provides support for several languages (PHP, JavaFX, C/C++, JavaScript, etc.) and frameworks. Back end : Ms-Access.
- Does organizations possess these technologies? – Net Beans is widely used product in software industry. Obtaining these technologies won't be difficult. Any organization, which wishes to use these products, can purchase them easily. Organizations which are already into software training/development possess these technologies.

Legal Feasibility: Since the proposed project is on Employees performance monitoring system copyrights can be easily obtainable and legally there is no problem regarding the development of the project.

5. DATA FLOW DIAGRAMS

DFD depict information flow and the transforms that are applied as data moves from input to output. This enables us to develop module of the information domain and functional domain of the same time. As the DFD is refined into greater levels of details, the analyst performs an implicit functional decomposition of the system.

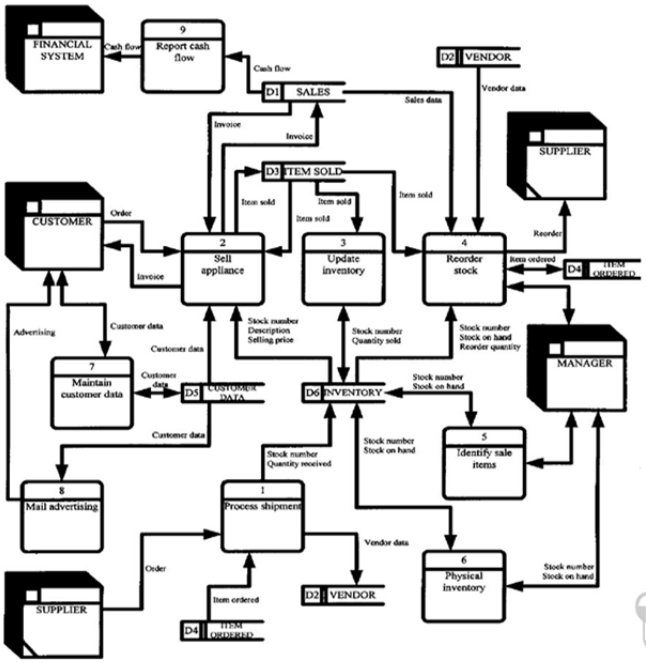

Fig. 1. 0-Level DFD (Context).

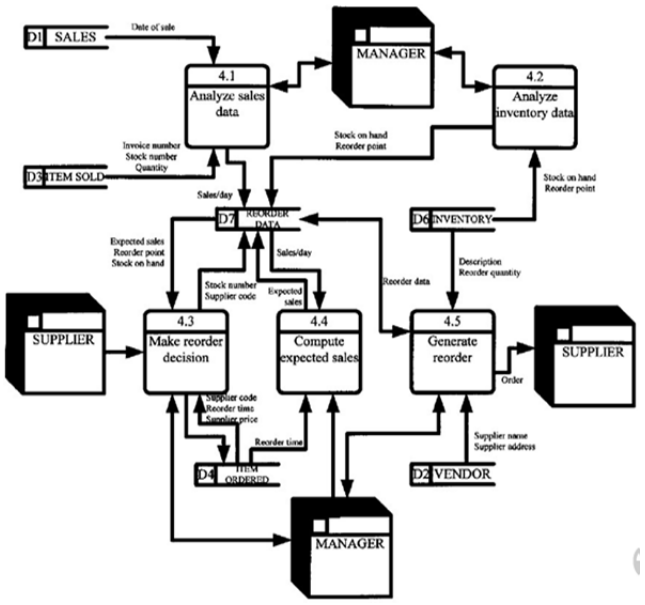

Fig. 2. 1-Level DFD.

6. SYSTEM IMPLEMENTATION

Implementation is the process of converting a new system design into operation. Conversion is an important aspect of implementation. It is a less creative phase than the system design. It is primarily concerned with user training, site preparation, and file conversion. Conversion entails following steps:-

- Review project plan, test documents and implement plan.
- Convert files.
- Log the computer rum for reference.
- Discontinue old system.
- Plan for post implementation.

There are three types of implementation:-

Implementation of a computer system to replace a manual system: The problems encountered are converting files, training users, creating accurate files and verifying printouts for integrity.

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 long as a year to convert.

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7. CONCLUSION

The Inventory Control system is developed in Net Beans and requires Windows or Dos operating system to run. It is a GUI based system from which we can choose drawing and painting options to perform operations. This system is flexible and less time consuming than Manual System.

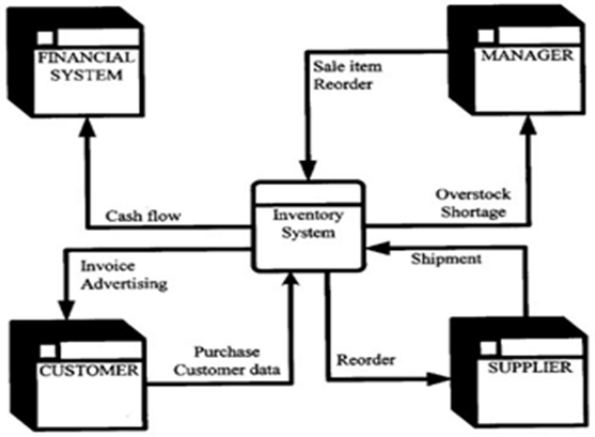

Fig. 3. 2-Level DFD.

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