Web Based Computer Maintenance Management System

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Abstract. Rational Unified Process (RUP) is utilized for system flow on how to run the system. There will be a list of detailed explanation, of the issues with the present systems. The method which uses logic for analyzing problems act by 3 steps. They are problem identification, selecting the best resolutions and implementing them. The RUP finds out different types of methods used for maintenance and how good they can be applied in computer systems. The steps of finding out and technical maintenance indicator are reviewed by it. The varieties of activity for maintenances offered in the computer systems. This proposed Computerized Maintenance Management Systems (CMMS) displays the final report and also displays the maintenance support’s list from the database that are available in the lab through the maintenance support Availability Form. Furthermore, the proposed web-based computer maintenance system aims to report and troubleshoot a computer-maintenance problem to the department management. Experimental results show that the proposed system efficiently validates the system through the unified process.

Keywords: Rational Unified Process (RUP), Web-based Computer maintenance system, Computerized Maintenance Management Systems (CMMS).

1. Introduction
The planning, tracking, measuring and everything else is done in maintenance on the digital platform by the companies with the assistance of Computerized Maintenance Management Systems also called CMMS. A Computerized Maintenance Management Systems assist the companies for organizing as well as managing the maintenance activities with prevention intent, records, security, etc. It’s a huge step of improving the practices for maintaining, justifying the importance of maintenance, also the resources used by manufacturing provision get results. The functions of the CMMS are shown below (Figure 1).

![Fig.1 Functions of CMMS](image)

Computer maintenance is a very simple application which can be used in any organization by the maintenance team. Any member with register id can get issue of a particular maintenance support that he wanted. In this application the maintenance team should check the maintenance support...
availability in the database if the maintenance support is available then the maintenance team can issue
the maintenance support to the member if the maintenance support is not available, he cannot issue the
maintenance support to the member. In this application i.e. the Computer maintenance can display the
members that are in the organization, and it displays the maintenance supports available in the lab, it
displays the Final Report Respectively. This simple application displays the Issue report and also
displays the maintenance support’s list form the database that are available in the lab through the
maintenance support Availability Form. The main aim of the project is to provide each and every
detail of the maintenance support present in the database if it is available and to furnish the records of
the member present in the institution. The primary aim is to generate the reports for the final details
for the lab. In order to construct a monitoring system which is capable of monitoring and managing the
activities in lab in effective way. To save properly the laboratory. To ensure and demonstrate
information of different problems and follow-up to know when they return. In order to construct a
system that can obtain input and also create an output in simple methods and within less time.

2. Literature Survey

2.1. Computer System’s Maintenance in a Corporate Environment
Created in the middle of the XX century, computers and computer technology undergone a rapid rise
in its development, and became an integral part of our daily lives. Complex systems with the use of
computer technologies cover many activities in manufacturing, finance, science and medicine. In such
systems, the units (enterprises), which are homogeneous in composition and activities, unify in
corporate information system (CIS) aiming at the effective functioning. CIS is considered to be an
information system, which includes a set of hardware, communication network, database,
document management subsystem, etc. [1]. The most important resource of CIS is the information, the
quality of which resolves the implementation of tasks to achieve the final result. In this case, it is
necessary to ensure the reliability of individual properties such as reliability, maintainability, storage
ability, durability, which are realized through the maintenance and repair (MR).

2.2. Development of Computer Maintenance and Trouble Shooting Skills Training
The objective of this article is to give a method that permits candidates to be encouraged and well-
taught to identify then remove mistakes and make use of the learning. It is an initial point to assist
candidates create and improve their skills of doing maintenance to prevent issues and troubleshoot
when issue arises. The process used to find the reason for issue in the computer and repair the
respective hardware or software problem is called troubleshooting. This paper provides common
model of doing things along with candidates within the working place. Demonstrated method comprises the improvement of the common methods of working with IT pupils, in finding resolution
for the issues and troubleshooting the systems, and a shared communication. As workers in
information Technology field, the candidates will identify and correct the issues, and they’ll often
have to communicate with other people. Students’ have to protect data before beginning any work on a
computer. But the information technology instruments cannot be used in a system room or data-
storage place where the proper temperature is 85° F (30°C).

2.3. Computer Govern Maintenance System for a Process Industry
Computer Govern Maintenance Systems are nowadays often used for managing and controlling plants
the maintenance instruments. This simply uses the computer systems for taking decisions, making
plans and organizing different tasks in a fast pace. The Computer Govern Maintenance Systems along
with providing vital data to take decisions, it also uses valuables operational tools to make sure an
improved availability and regular and equal throughput. It is placed in Panipat in Haryana and is about
twenty-three kilometres from the city. The original refinery with six MMTPA volume was constructed
and established in 1998 with a budget of Rs. 3868 crore (including installation of pipelines for
marketing). In order to determine the maintenance tasks that would be required, needs a deep
examination of all the historical information. It is a well-known fact that this task requires lots of time.
Hence Information Technology was used for optimization of maintenance activities done in preventive
intent. It is user friendly, simple, cost-effective, and fast and comprises numerous modules. But these Computer Govern Maintenance Systems are common for industries hence need to be optimized as per the industrial need. It yields high cost of all CGMs and also, they are a little complicated.

2.4. Design, Development and Implementation of Computerized Maintenance Management Information System (CMMIS) For A Selected Medium Scale Industry
Managing a huge quantity of information is a general issue persisting in a lot of companies. The study is proposed for designing, developing and implementing a computerized maintenance management information system (CMMIS) as per the needs of mid-level industries, with a purpose of assisting the maintenance and additional tasks in the company. This is a most efficient database management system created by Asp.Net as front end as well as My SQL as back end. The needs of the consumers have always been the prime importance in its development. The model is planned help the managers to control fields that includes marketing, production, stores and purchase that are co-dependent for enhanced performance of the overall companies. The reports of all the functions of the company including the information about equipment’s and its spares, schedule of maintenance with preventive intent, work orders, etc. are provided by the system for view in screen as well as printed copies. The awareness of the client is an important factor in deciding the effectiveness and advantages of this model. Information system supplies precise, on time information with a better relevance to the manager of the company. The main motive of creating this software is to assist the mid-scale industries for automated maintenance of maintenance and other tasks without need for manual intervention. This causes a lot of frustration and is time-consuming.

2.5. The Computerized Maintenance Management System - An Essential Tool for World Class Maintenance
Managing the maintenance activities in bigger industries is complicated and thus will have a considerable impact on the profits of the industries. Effective management of these maintenances are nearly not possible without computerization. Also implementing these with a good success rate needs a major program for change management over time. Therefore, implementing a CMMS with enhances reliability and capability has a poor success rate even in the developed companies. This article concentrates on knowing the rationale for poor rates of success and gives an outline of vital things which are to be added to make sure that a program with discipline and necessary resources can give success. It is stressed that there is a necessity to get assistance of higher lever managers to cross the hurdles to amend by making them understand that these support systems can make good business sense. The system benefits the company so that they are capable of and are ready to implement the system in all aspects. This is a complicated process and it needs technical and economical knowledge combined.

3. Experimental Methodology
We provide maintenance service for lab computer like server, network etchers, the security and uniform maintenance will provide. It is very easy to maintain the details of the maintenance support& labs, etc. Hence this process is the most convenient in all aspects compared to the existence system. We are going to propose a web-based computer maintenance reporting system for corporate companies to report a computer-maintenance problem to troubleshoot department management. It may be compliance with regulatory deadlines; friendly and attentive service; timely informing the customer about the changes made to the work completion timing. The competence of personnel and the rate of the used technology; ensuring confidence-building measures within the framework of the preservation of confidential information on data carriers. Earlier this process was done manually by entering the details of the user and maintenance support in a particular maintenance support and was very hectic to the maintenance team to maintain those details. This process has become very complex in course of time and burden in this process. The overall workflow of the proposed system is depicted below in figure 2.
Activities within the framework of the MR strategies can be classified as follows:

- Maintenance
- Ongoing repair
- Overhaul
- Modernization
- Replacement and installation of new equipment.

The system needs two-tier architecture for its implementation on the client-server architecture, if the set of information is from a distant server. An instrument often one per user can be created in such a way that the information is kept on more than one shared servers. The consumers of such architectures or such systems are known as CLIENTS. The correspondence often happens as a client request to the server requesting for some task to be accomplished, for example retrieving payments information or the report generation of the total expenses in the current application. The server completes the task and replies back. Often there are numerous clients within limited servers.

4. Experimental Results
The experimental results are illustrated below.
Fig. 3 Account Setting

Fig. 4 Computer complaint details

Fig. 5 Admin complaint details
5. Conclusion

“Web based computer maintenance management system”, this was made computerized to decrease manual errors and to improve the efficiency. The prime target of this model is to decrease manual effort. Easy retrieval of the data stored in ACCESS database lead to efficiently maintaining the data base. The navigation control is given in all the pages to go through the huge volume of data. A search string is provided so that the client can simply type and obtain instant results. The editing has also been made less complicated. In order to edit/update the client can simply type and press update key to update the necessary detail. Individual Identity number is given to the maintenance supports and clients for easy and correct access to the service. The prime objective of the project is to obtain the right details about a specific client and maintenance supports in the lab. The issues, that were present in the previous system, have been eliminated to a huge level. Also, it is anticipated that this model will fulfill the users’ need to a long extent. The computerization process will improve the capability and decrease the unnecessary pressure on humans simultaneously thus improving manpower and resources.

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