E-Deadstock Management System for Educational Institutes

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***Abstract*— In an Engineering Institute, maintaining the records of the laboratory equipment is a critical issue. A manual method of keeping details is a time-consuming process and also increases paperwork. In this study, we developed a framework of laboratory equipment management systems used for the in-house Electronics Engineering department. This is a web-based system that uses an intranet approach for communication among system users. The system also generates reports that can be helpful to show the equipment's records in lab audits. This will help to improve work efficiency, lower maintenance costs, and ensure the safety of laboratory equipment.**

Keywords: Lab management, Tabs, Session, MySQL, Admin, Inventory.

I. INTRODUCTION

Dead stock Knowledge is extremely difficult to handle these days. In the current method, information is held on paper, which is difficult to manage and poses a security risk. It also takes more time and effort from the consumer. To address these issues, we proposed a Dead stock Management System that provides a simple way to maintain records while reducing labour costs, maintenance costs, and time, as well as ensuring the protection of our data. The lab's inventory management system makes use of our software. The interface has a menu-driven programme that enables easy user interaction with some GUI applications. The device also sends alerts to users for reliability and consistency. Only admin modules are part of the dead stock management system. Login and registration forms are part of the Admin module. All user details, stock information and billing information are stored in the Admin module. Admin is responsible for stock management, which includes inventory checks, expiry dates, serial numbers, product definition, packing, position and lots. The remaining stock, as well as the new stock, are all part of the Check-stock operation. Only admin modules are part of the dead stock management system. Login and registration forms are part of the Admin module. All user details, stock information and billing information are stored in the admin module. Admin is responsible for stock management, which includes stock control, expiry dates, serial numbers, product definition, packing, position and lots. The remaining stock, new stock, and so on are all part of the Check-stock operation.

II. LITERATURE SURVEY

A laboratory management system is a software-based system that provides a collection of main features to aid modern lab operations [8]. Support for workflow and data monitoring, modular architecture, and smart data sharing interfaces are only a few of the key features that fully support its use in managed environments [1]. In today's world data is very important and so is its management. This lab management system is designed such that it provides every possible feature in order to achieve particularly two things that are data management and another is providing a user-friendly environment [5].There are many advantages of software-based systems over the earlier manual data-keeping systems such as prevention of data loss or theft,less space requirement, and environment friendly etc. [4,7].The laboratory

management system (manual system) has several problems. The problems that have been facing for a past year are:

- Hard to manage the task in different locations by using a manual system. For example, the user such as staff and students must go to the resources room to book the lab.
- The recorded data is easily lost if the lab administrators use the manual system. So, this issue will create another big problem to the lab administrators.
- Lab administrators find it hard to troubleshoot and repairing lab equipment if there are certain devices damaged in labs when using manual system [3].

III.PROPOSED SYSTEM

Proposed Laboratory Management System to Improve Data Maintenance Process."It is introduced with the aid of web creation. In order to prevent pitfalls in the current system, the proposed system is built as a web-based system where it can be accessed at anytime and anywhere on their mobile/PC. The faculty can use their credential to access the server system. The lab faculties will now keep track of each and every device/stuff used in their laboratories. Some additional features include uploading payment receipt, search bar, sorting system, etc.

Figure 1 shows the flowchart of proposed web-based system. A login page is a web page or a web page that needs user identification and authentication by entering a username and password combination on a regular basis. Logins can provide access to the entire website or part of the website. Logging in not only gives the user access to the site, but also enables the website to monitor user activities and behaviour.Logging off a website or site may be a manual for the user or may occur automatically when such circumstances (such as page closure, device shutdown, long delay, etc.) occur.

A. Developing Tools

The developing tools are used to prepare web pages and build databases. Since the programme is easy to set up and use, the Deadstock Administration Application web pages were built using HTML5, CSS3, JQuery, and JavaScript. We used JAVA for the programming because the JSP-designed internet page is more capable of preparing a complex working environment. The software will be enabled on Linux-based desktop computers. In terms of storage equipment, the Electronics Department got a MySQL server for its neighbourhood database. The components of selecting diverse databases were considered with the utilizing volume, taking a toll, execution and productivity.

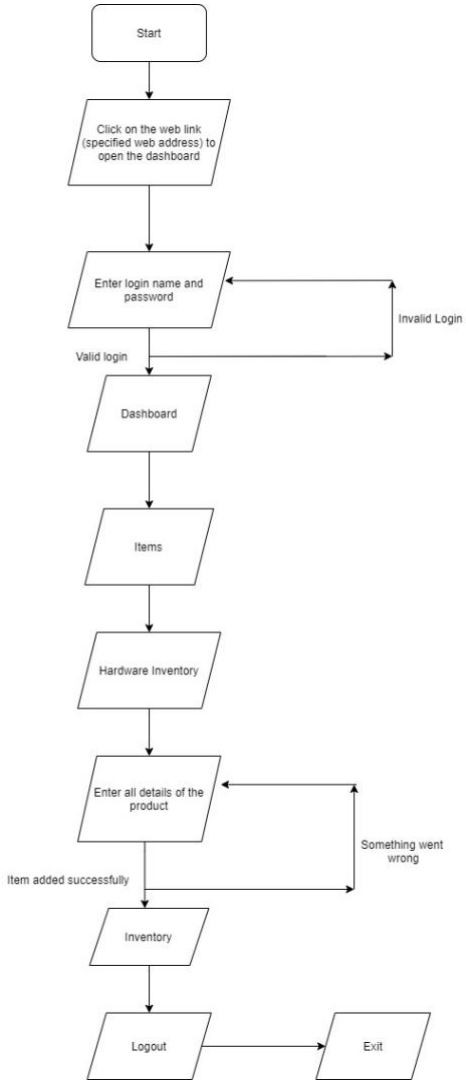

Fig 1.Block diagram proposed web-based system

B. Security

Security is of primary importance to the Labs or Sections, regardless of whether they are available via the public Internet or via a private network. Security is essentially about authentication and authorization. Authentication is usually an issue that the user has to deal with. The request for a password is the simplest form of the challenge. Each lab and section header's usernames and passwords are stored in the database, with each user requiring permission to access information unique to their lab or section. Once the user has been authenticated successfully, it is said that the user has created a legitimate system access session. A Hypertext Transfer Protocol (HTTP) session for a certain amount of time in web-based applications such as a deadstock management system. The server is considered authenticated by the user as long as the HTTP session is active. The HTTP Session Object saves the session's status, as well as the user's credentials. A database may be used by a web-based authentication service to store registered users

as well as HTTP session objects containing information about authenticated users.

IV.IMPLEMENTATION OF PROPOSED PROJECT

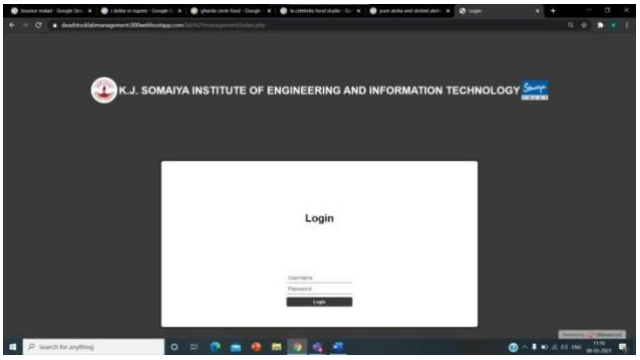

Fig.2. Authentication Loginform

Figure 2 shows the deadstock management system login page and it is password-protected. A unique ID and password have been assigned to each lab assistant. If the correct ID and password are entered, it will lead to a dashboard.

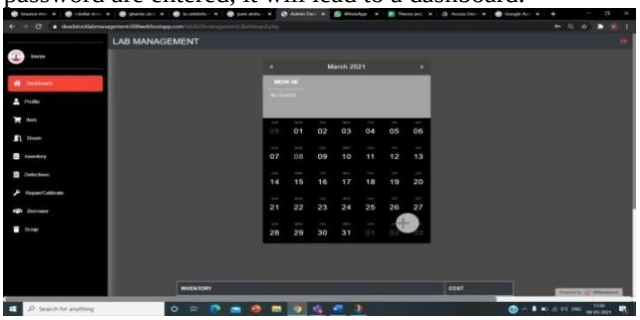

Fig.3. Calendar with reminder feature

Dashboard has a calendar and a total inventory cost table along with a side menu bar with various tabs, each with a specific functionality as shown in figure 3. The calendar is designed with a unique reminder feature. The calendar supports three main event categories:
Event creation: a new event has been added to one of the user's calendars.
Event change: an event the user is invited to have been modified by the organizer.
Event cancellation: an event the user was invited to have been cancelled.

Figure 4 shows total sum of cost of all inventory items. Every Item added or removed is properly analyzed and in the end the system generates a proper cost in total. The profile shows the username and display of all members. It also has an option to remove the username and password that is not needed.

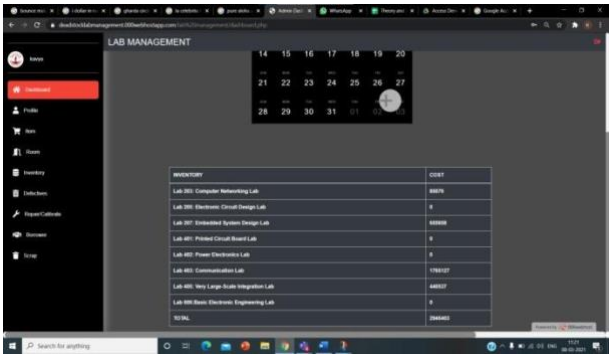

Fig.4. Total sum of cost of all inventory items

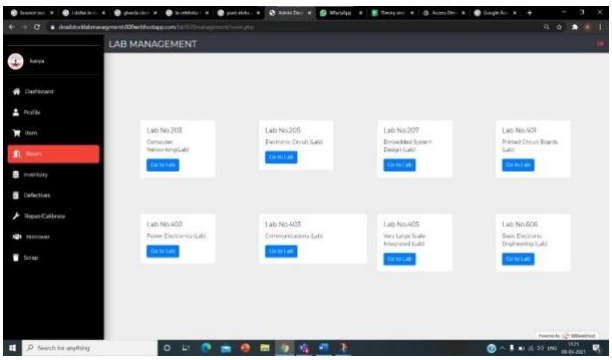

Fig.5. Labs of ETRX Department

Figure 5 shows all the labs that are provided by the institution particularly for ETRX(Electronics) department. This feature/tab makes the system more user-friendly, and thus helps in proper management. Item tab is divided into two parts: hardware inventory and software inventory. All the labs of the Electronics Department have been assigned in the Room tab. Separate Options for hardware inventory and software inventory is present for each Lab. Items which are found to be defective are listed in the defective tab.

Figure 6. Lab wise data information maintained by lab assistant

All Equipment's and software details filled by the Lab assistant is available on same webpage as shown in Figure 6. Data information filled and maintained by in

Repair/Calibrate tabs has the item that needs to be fixed or calibrated. The option to edit items is also availablehere.Borrowed products from one lab to another are mentioned in the Borrower tab. The Scrap tab has all the items that are not used. Add and edit option is also available here to add or edit items in the table.

V. CONCLUSION

We created a dead stock management system that can be used for a variety of purposes. For example, it can provide users with a proper, faster, and more cost-effective service, reducing the time required to keep track of equipment records. This equipment management and college store department management system is adaptable and dependable. The user interface is attractive as well as convenient. Data entry is simple and straightforward. We also included several choices in this registry, such as an event updating the calendar, product definitions, serial numbers that are specific for all stock/equipment, equipment expiry dates, stock location, and packaging. We'll get an update on which products are faulty, which need to be repaired, who is borrowing which products, and which products are needed in the lab. We will provide more mobile-based solutions in future work directions to expand the framework. As a framework is created for a specific department in the institute, it can be expanded to include other departments in the institute in the future, and the database can be centralized with other departments in the institute.

VI.REFERENCES

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