ELECTRONIC INVENTORY AND ACCOUNTABILITY SYSTEM (EIAS)

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ABSTRACT

The project focused on the development and implementation of the Electronic Inventory and Accountability System (EIAS). It is a web application that manages, monitor, update, track, and generate reports more easily of the electronic items. The project aimed to resolve the problem regarding the manual typing of inventory in the Dost Lab and Aboitiz room also the issues of item loss. The tools used for the web application development were the MySQL database server, PHP, CSS, and Bootstrap.

The rating of the system is 4.47 ("Strongly Agree"). Therefore, based on the data gathered, the system provided a solution for the problems that are mentioned, thus making the transaction effective and efficient.

INTRODUCTION

In today's generation, most of the industry uses a computer to manage the control and monitoring aspects of their business, since doing it in a manual way, the info processing could not meet the business demands in increasing the standard of any volume of transactions. Upgrading and seeking continuous improvement using technology, the system becomes useful and its powerful application could make business transactions tons efficient and straightforward. In order to make a transaction smoothly, an inventory is mainly concerned about the position of an item, it also defines the stock of resources that is maintained by a certain organization to anticipate a certain future demand. Nowadays, in our community, computer technology escalates as the people move along in modern civilization.

System and methods with certain aspects related to the certain invention called inventory management process an intelligent system that enables to monitor and gather various information, the present invention collects information from RFID, Barcode, and QR code tags attached to an item. In one aspect a common form of lending and borrowing a specific item manually relates to the certain issue that a lender must solve specifically; the system processes an item which use to lend the item to a certain borrower without specification of the exact item they borrowed. The manual process of lending an item and manually putting it on the system might be another source of problem to resolve the recurring problem of grant an advancement or process lending the item via computer is a help for the lender.

For the users, it will benefit the PUP-Taguig. The administrator will handle the system that will lessen the workloads by doing it automatically, manually applying all items but verify by scanning, borrowers have no access in the system at anyway. Students and authorized people can only borrow an item and for verification of the borrowed. The study of the known projects focuses on the efficiency, time, and effectiveness of the system, which may be recommended for implementation.

For the researchers, this will increase their productivity, enhance their insights regarding the path they will take, it also applied to real-life situation when it comes to the industry they choose. This study will help their skills, bring out their deep thoughts and ideas by giving them an opportunity to bring up concepts that will apply and can used in the corporate

For the future researchers, the study will serve as reference for study trials to improve their research. It will come up to help them build a better concept by assessing the system or this will serve as their reference as literature review to make a better and creative project. Lastly the proposed system will ensure data security by producing backups that will definitely be helpful in the future.

RESULTS AND DISCUSSIONS

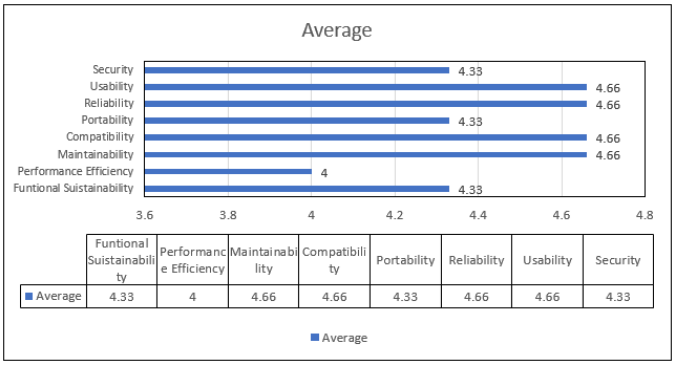
The following figures show the results of the findings of the study after testing the system. The survey used was based on the ISO 25010 and the rating is based on the Likert scale which is mentioned before, that ranges from one (1) to five (5). The Likert Scale used is shown below.

Table 1: Likert Scale (ISO 25010)

Numerical Rating	Interpretation
4.41-5	Strongly Agree
3.51-4.40	Agree
2.61-3.50	Neutral
1.71-2.60	Disagree
1-1.70	Strongly Disagree

The procedure provided the users the ability to inspect the system. Users were presented similar sets of questions utilized to effectively evaluate each of the system components on such areas as efficiency and effectiveness. Interpreting the survey responses reflected results as follows.

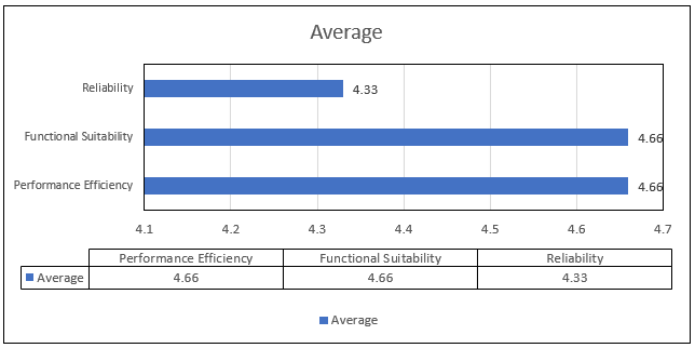
Figure 1. Efficiency and Effectiveness Average



Efficiency and Effectiveness of EIAS

With the rate of 4.45, Strongly Agree; The system is capable of providing functions that meet the stated functions, it is somehow efficient and effective but it will need some improvements and enhancements especially in terms of its security and portability.

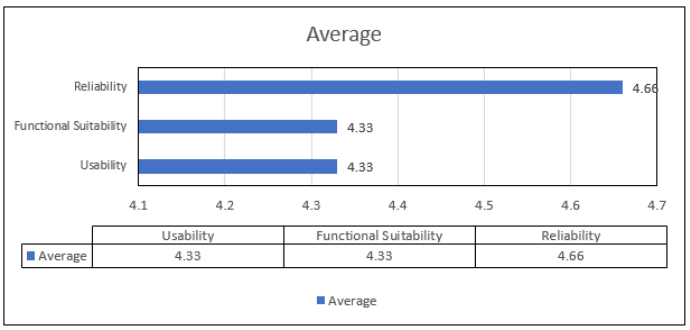
Figure 2. Performance Sufficiency Average



Performance Sufficiency of EIAS

With the rate of 4.55, Strongly Agree; the system's performance is quite sufficient. It caters transactions which meets the system requirements of the client, but will need enhancements for it to be more efficient.

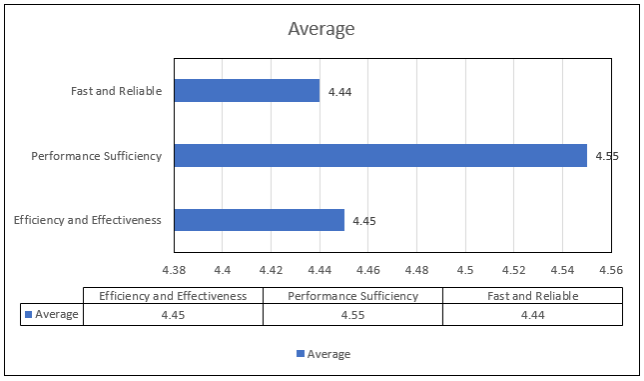
Figure 3. Performance Sufficiency Average



Fast and Reliability of EIAS

With the rate of 4.44, Strongly Agree; it is fast and quite reliable, but it still needs to be improved.

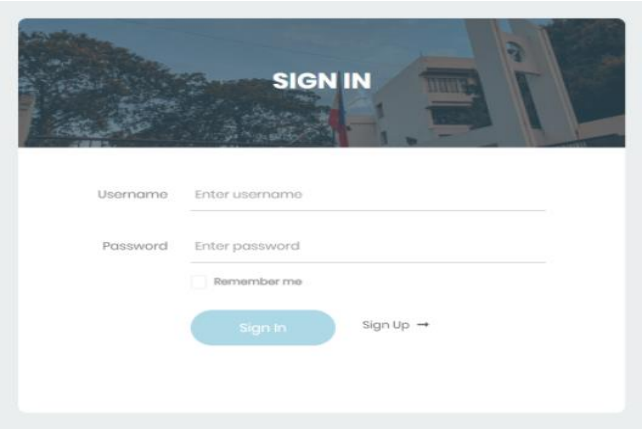
Figure 4. Overall Result of Testing



The project team will stay connected to their client regarding with their recommendations. The results show that the system is 4.48%, Strongly Agree, and will be a help in the Computer Laboratories of the university. The testing was conducted to let the users experience the purpose of the system and to perform the process needed. The respondents were given the same survey forms, which includes the rating of the its efficiency and effectiveness, performance sufficiency, and its reliability.

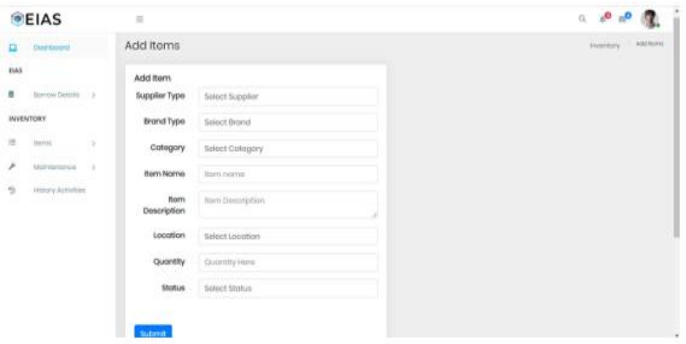
Below are the screenshots of the web application of the Electronic Inventory and Accountability System.

Figure 5. *System Log - In Page*



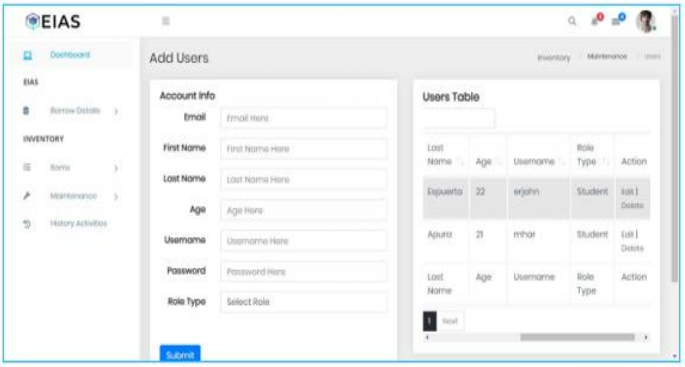
System Log-In Page. This is the first page that all of the users will see upon visiting the system. It has a login form, in which after the login, each user depending on the credentials input, will be directed to a certain dashboard.

Figure 6. *Add Items*



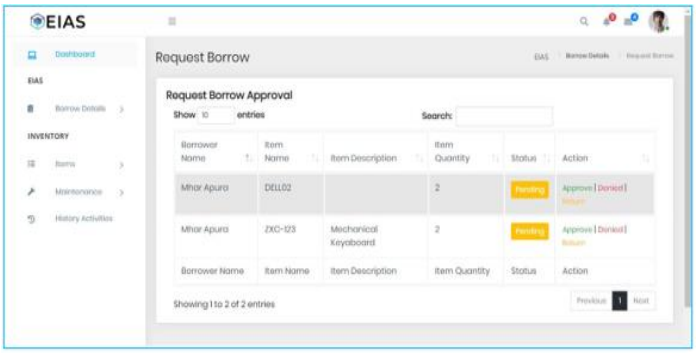
Add Items. The Add items page is for the client or the admin. It is used to add any items in the system, including the items brand type, category, and the items status.

Figure 7. *Add Users*



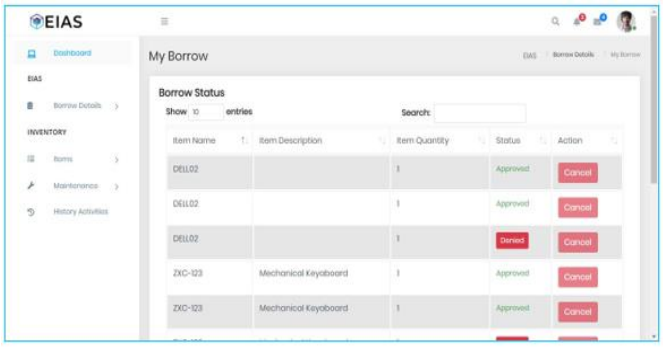
Add Users. The Add Users page is for the client or the admin. It is used to add users in the system, including the role type.

Figure 8. *Approval of borrow request*



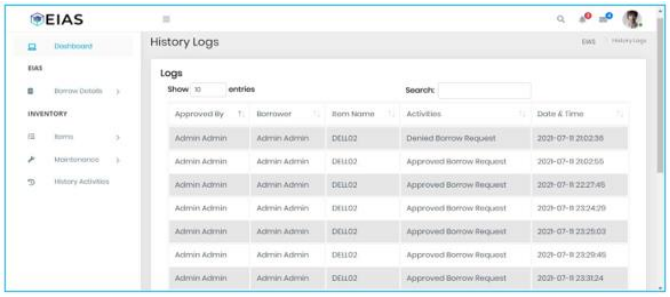
Approval of borrow request. The Approval page is for the client or the admin. It is used to view the pending requests of the students.

Figure 9. *Status of borrowed item*



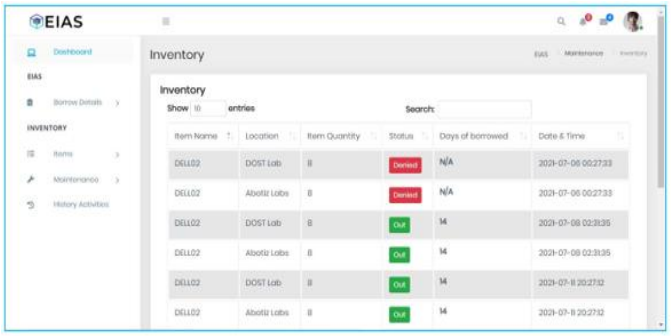
Status of borrowed item. This page is for the client or the admin. It is used to view the status of the borrowed items of the student if its approved or denied.

Figure 10. *History Logs*



History Logs. This page is for the client or the admin. It is used to view the history of transaction that have been made.

Figure 11. *Inventory*



Inventory. This page is for the client or the admin. It is used to view and manage the inventory of the items.

CONCLUSIONS

After the researchers conducted the study and the EIAS was designed, developed, and tested, the following conclusions were drawn by the researchers:

1. The developed system Electronic Inventory and Accountability System (EIAS) website application is an effective system that helps the transactions of the borrowed items.
2. It is much easier to generate reports that are needed, and it is easier to handle borrowing task and to manage the inventory.

RECOMMENDATIONS

Based on the conclusions drawn, the following recommendations are hereby given:

1. The researchers firmly recommend the implementation of the Electronic Inventory and Accountability System.

2. The researchers commend to the future researchers to think of a way on how to put order function, instead of approving individual item it can be put in an order where there are multiple items to approve.

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