

## RESEARCH ARTICLE

# Resource and Asset Management System for East West Seeds Co. Inc.: Design and Development

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## Abstract

The development of Resource and Asset Management System follows the traditional System Development Cycle (SDLC) model. The SDLC is a complete set of steps that a team of information system professionals, including database designers and programmers follow in an organization. There are several SDLC models in existence. The oldest model that was originally regarded is the waterfall model. The waterfall model is a sequence of stages in which the output of each stage becomes the input for the next. The steps are not purely linear so it is possible to backtrack to previous steps when a prior decisions need to be reconsidered. The Identification and Selection phase identifies the system requirement, Initialization and Planning phase, generate a high-level view of the intended project and determine the goals of the project. In this phase the scope of the system were determine to ensure the project feasibility. In the Analysis phase, involves breaking down the system in different module and persistently study the functional specifications and draw conclusions from it. The System Design phase includes emphasis to Logical and Physical Design of the system, write the code and build the application. The researcher makes use of ASP.NET as the programming language to integrate the operation of East West Seed Co. Inc. in particular the ICT and General Affairs department for the back-end MySQL. The Implementation phase requires testing and installing the new system, training users and finalizing the documentation. Lastly is the Maintenance phase, which includes changes and enhancements.

**Keywords:** *Resource and asset management, Design, Development.*

## Introduction

Nowadays, organizations rely on IT for their operations, protecting and managing IT assets. Assets are formally controlled and managed within larger organizations via the use of asset tracking tools that monitor the purchasing, upgrading, servicing, licensing, disposal, etc., of both physical and non-physical assets that has been tested and proven to lessen the complexity of manual processes conducted by most people. The advent of this technology and its variety of benefits have been made conducting business easier and more accessible, these are one of the capabilities Information Technology asset management involves the management of IT infrastructure like computer, monitor, keyboard and even software installers.

IT asset management helps in tracking and configuring all IT devices within one information system, it also includes the detailed analysis of all the assets of the organization. IT asset management involves the managing of the existing equipment and other physical assets. The

objective of asset management is to maximize the use of an asset. In managing the asset properly, it does not only maximize the life or the use of an asset but it also improves the production costs and quality that the assets can provide. Managing the assets includes the regular maintenance of the asset and keeping it in working condition. It also involves replacing it when it becomes obsolete or too costly to operate and maintain.

## Objectives of the Study

The main objective of the study is to design and develop a resource and asset management system for East West Seed Co. Inc.

In particular the study aimed to:

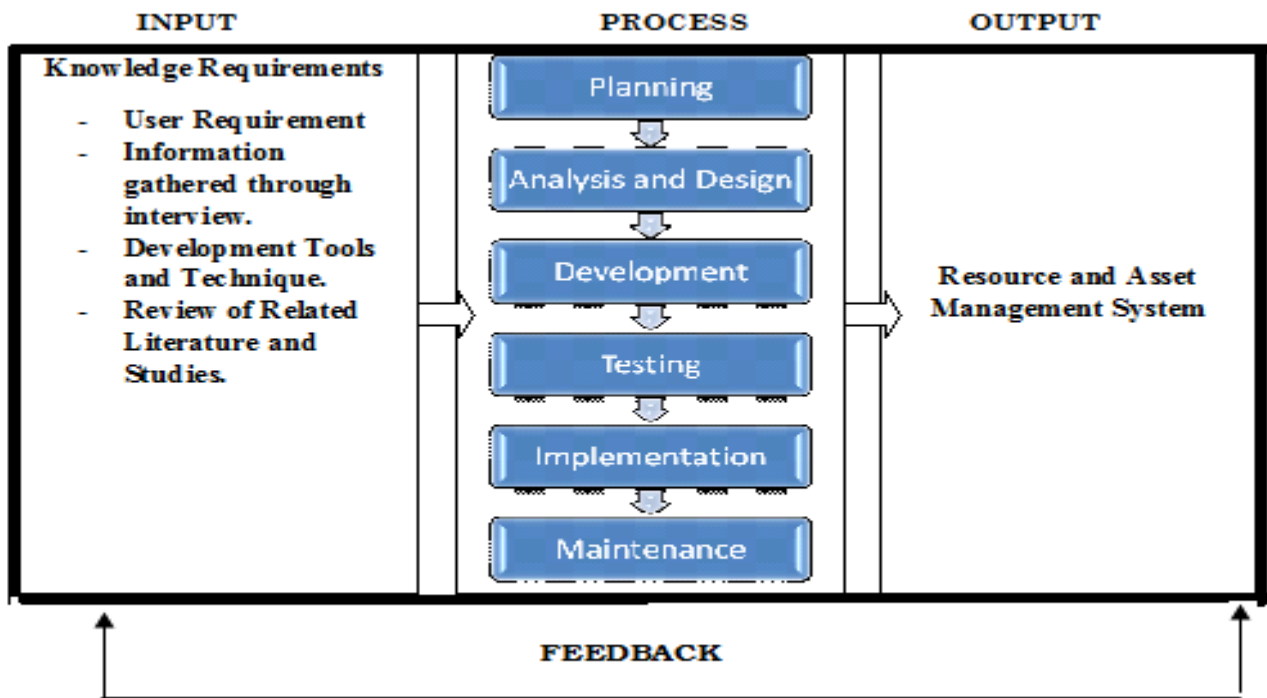
- To identify the essential features in designing and developing a resource and asset management system for East West Co. Inc.
- To evaluate the system in terms of the following Software Quality Evaluation Criteria:

- Functionality
- Reliability
- Usability
- Maintainability
- Portability

### Framework of the Study

The study Resource and Asset Management System follows the process called IPO that stands for Input-Process-Output. The IPO model is a general system model and used to convey systems

overview and it is a preliminary investigation tool in systems processes as shown in Fig. 1 the first frame of the diagram is the input which refers to all raw materials required in the development and producing output. The most common input includes the user requirement, research done by the researchers, data gathered through interview, development tools and techniques, and the review of the related studies and literature that defines the system process.



**Fig. 1: Theoretical framework**

### Feedback

The second frame is the processing side which involves different stages. The first stage includes planning and analysis which discusses the analysis of the input and converting into technical aspect resulting of programming and development. During this activity the researcher discovers ambiguities and inconsistencies in the transaction management particularly in Resource and Asset Management. The result of the analysis is a system model as shown in Fig.1 annotated with attributes, operations, and associations.

The design phase of the study will follow after the analysis, and this includes precisely describing object and subsystem interfaces as presented in section 4.3, selecting off-the-shelf components and restricting the object model for performance. Interface of the system is properly layout as what has been planned during this analysis stage.

Development stage includes the programming side such as the development of the front-end application and back-end application. In this stage, the differences between the system and its model are found by executing the system with the sample input data.

During the implementation stage the develop Resource and Asset Management System becomes operational. This includes user training and software installation. The implementation approach that the researcher recommended is Parallel Running. With parallel running, the proposed system alongside the existing system and let them operate fully for a specified period. Data is input into both systems and output generated by the new system is compared with the equivalent output from the old system. When users, management and the IT group are satisfied

with the operations, the old system is terminated. The maintenance part will accommodate all necessary enhancements to the system as well as correction of any error encountered. Upon completing all the stages in the process, the final output will be a fully functional Resource and Asset Management System for East West Seeds Co.

### Methodology

The development of Resource and Asset Management System follows the traditional System Development Cycle (SDLC) model. The SDLC is a complete set of steps that a team of information system professionals, including database designers and programmers follow in an organization. There are several SDLC models in existence. The oldest model that was originally regarded is the waterfall model. The waterfall model is a sequence of stages in which the output of each stage becomes the input for the next. The steps are not purely linear so it is possible to backtrack to previous steps when a prior decisions need to be reconsidered. The Identification and Selection phase identifies the system requirement, Initialization and Planning phase, generate a high-level view of the intended project and determine the goals of the project. In this phase the scope of the system were determine to ensure the project feasibility. In the Analysis phase, involves breaking down the system in different module and persistently study the functional specifications and draw conclusions

### Essential Features of the System

As shown in Figure 2 (Manage Profile Department Page), the System Administrator is capable to create NEW USER ACCOUNT in which the user has the authority to assign activities to be performed by the users. In the MANAGE Menu->select DEPARTMENT-> click PERSONNEL-> select USERS Menu the system administrator has the authority to assign activities to be performed by the users.

from it. The System Design phase includes emphasis to Logical and Physical Design of the system, write the code and build the application. The researcher makes use of ASP.NET as the programming language to integrate the operation of East West Seed Co. Inc. in particular the ICT and General Affairs department for the back-end MySQL. The Implementation phase requires testing and installing the new system, training users and finalizing the documentation. Lastly is the Maintenance phase, which includes changes and enhancements.

An instrument was used to assess the operational feasibility of the system. The following criteria were provided in order to evaluate the developed system: (a) Functionality, (b) Reliability, (c) Usability, (d) Maintainability and (e) Portability, (f) Training and Documentation. The researcher used several tools in gathering data needed for the study. During the evaluation of the developed system, the researcher distributed questionnaires to the respondent of the system and was evaluated by a pool of three experts as follows: an Information Technology Developer / Consultant with three years of experience with system development and two Associate Software Engineers with two years of experience in the IT Industry, and from the target client the developed system was evaluated by the Secretary and employees from the IT Department.

### Results

The screenshot shows the 'WELCOME TO RAMS' interface. The top navigation bar includes: Home, Accountabilities, Requisition, Mails, Reports, and Manage. The 'Manage' dropdown menu is open, showing options: Assets, Office Supplies, Profiles, Departments, Personnels, and Users. The main content area displays a 'DEPARTMENT LIST' table with columns for Name, Description, and Edit. The table contains four rows of department data. An 'Add New' button is located at the bottom right of the table area. The footer of the page reads 'About | Copyright 2014 (version 0.00.01)'.

Name	Description	Edit
department 1	this is department 1 as of now	<a href="#">Edit</a>
department 2	this is department 2 as of now	<a href="#">Edit</a>
department 3	department 3	<a href="#">Edit</a>
Utility	Janitorial services	<a href="#">Edit</a>
Purchasing	Purchasing	<a href="#">Edit</a>

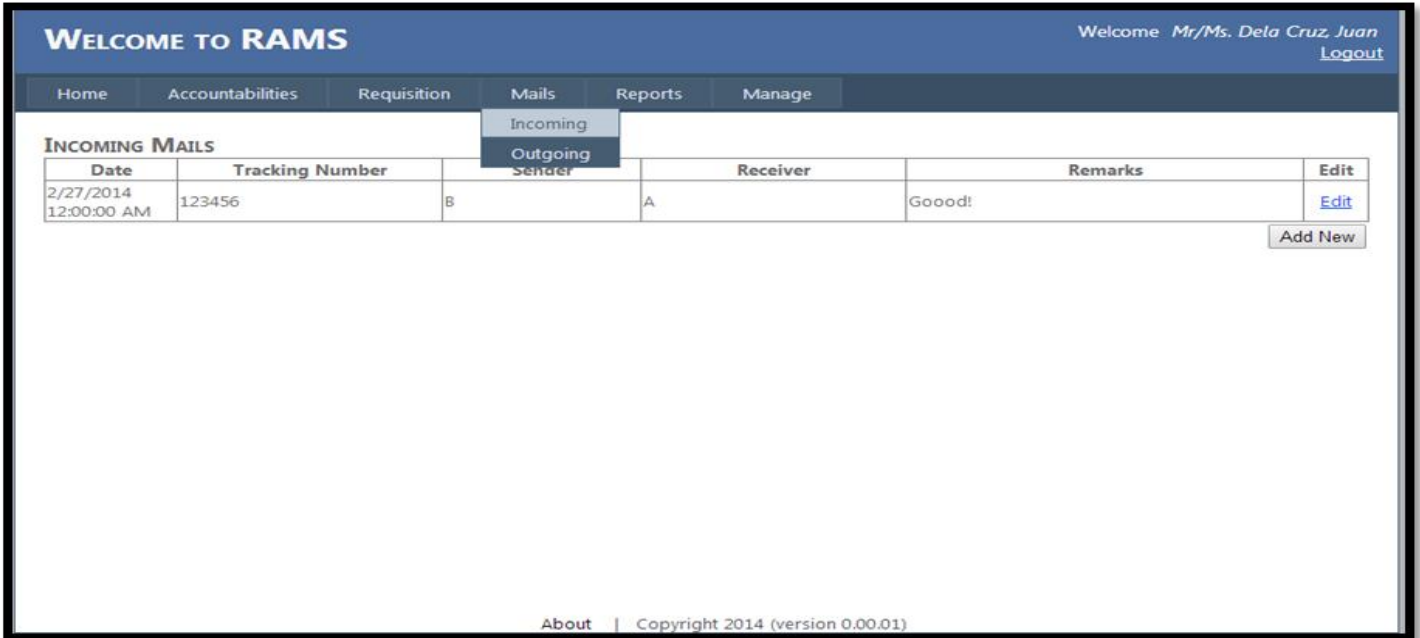


Fig.2: Manage Profile Department Page

Menu select NEW ACCOUNT; indicate the type of asset (e.g. laptop), click the NEW button from the toolbar and add new account. Fill-out the required

information click SAVE button. A NEW account has been created and assigned. ASSET ACCOUNTABILITIES

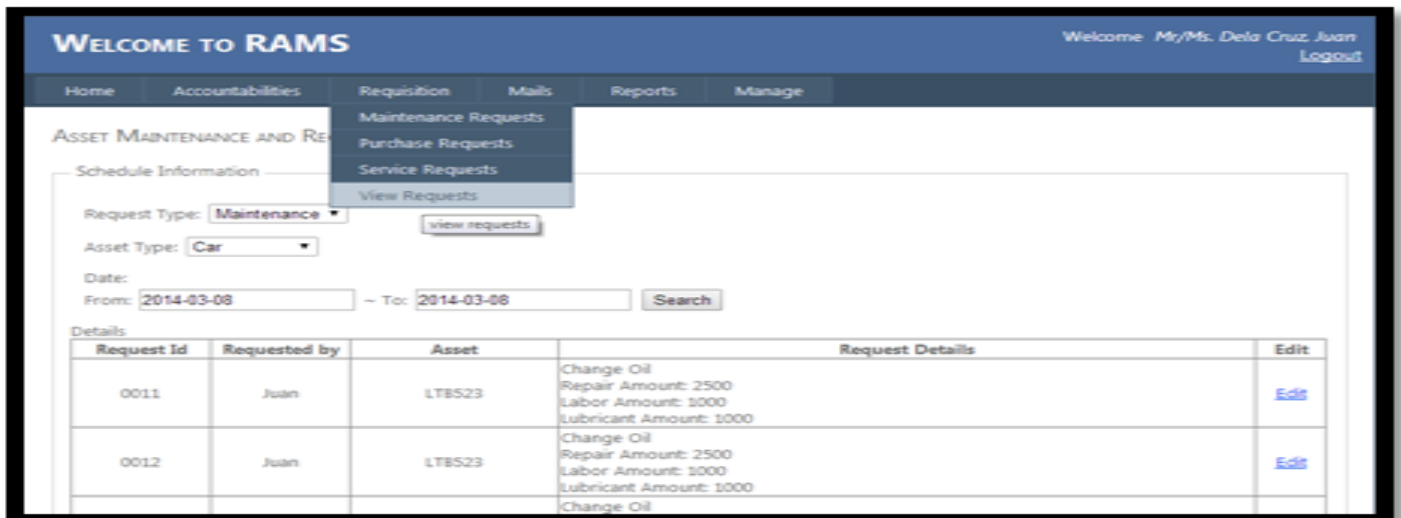


Fig. 3: Fixed assets menu

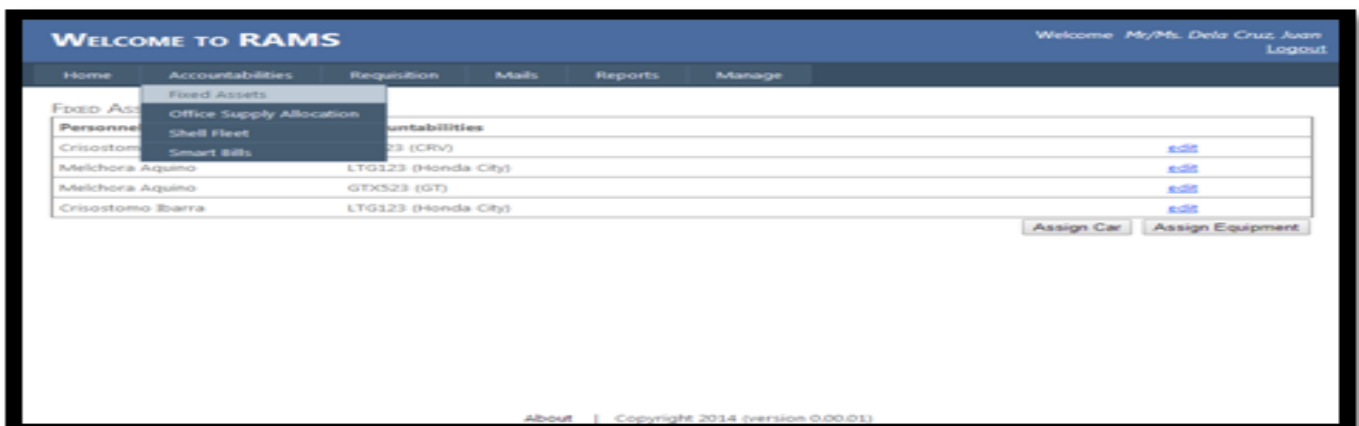


Fig. 4: Incoming menu for mails

Fig. 4 Incoming Menu for Mails shows that user can be access from MAIL menu select Incoming/Outgoing Mail. In this form you can view specific mails located in the Mail Archives. Nothing to do in delivering mails to the recipient.

As shown in Fig. 4 View Requisition Menu can be access from Acquisition menu, Schedule has two submenus View Schedule and Print Schedule, users can view schedule to check if an equipment/peripheral is available for requisition.

Criteria	Experts Response	
	Weighted Mean	Description
Functionality	4.6	Excellent
Reliability	4.37	Very Good
Usability	4.43	Very Good
Maintainability	4.66	Excellent
Portability	4.6	Very Good
Training and Documentation	5.00	Excellent
<b>Overall weighted mean</b>	<b>4.61</b>	<b>Excellent</b>

Fig. 5: View requisition menu

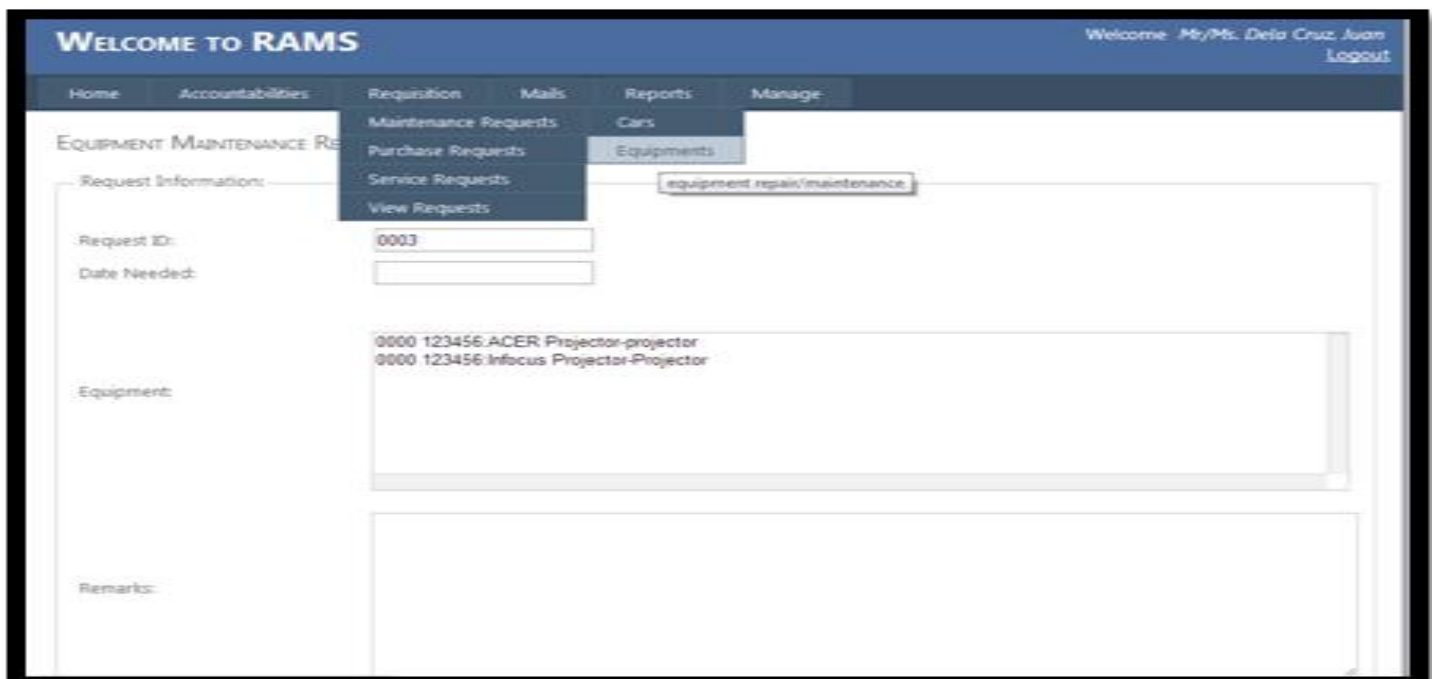


Fig. 6 : Car maintenance request menu for

- The East West Seeds Co. Inc., can greatly benefit by using the developed Resource and Asset Management System that is specifically configured for the General Affairs department and ICT department.
- The Resource and Asset Management System has the following significant features: Functionality; Reliability; Usability; Maintainability; Portability, and Training and Documentation.
- The waterfall model may be effectively used in developing the Resource and Asset Management System.
- The Resource and Asset Management System used ASP. Net programming language, My SQL as its database.

- The Resource and Asset Management System is functional in terms of Functionality; Reliability; Usability; Maintainability;

### Conclusions

Based on the findings of the study, the following conclusions were drawn:

### Equipments

As illustrated in Figure 6, Car Maintenance Request Menu for Equipments can be viewed under Requisition menu. Request form is available to all employees. Request can be a service request, maintenance or an asset request. In the REQUISITION Menu-> MAINTENANCE REQUEST->CARS or EQUIPMENT the user can Add Maintenance Request by filling-out the maintenance or asset request form.

## Software Quality Evaluation

The data revealed that the proposed system was rated “Excellent” in terms of Functionality (4.6); Reliability (4.37); Usability (4.43); Maintainability (4.66); Portability (4.6); and Training and Documentation (5.00). Comparatively lower ratings were given to the system in terms of

## Recommendations

Based on the aforementioned conclusions, the following recommendations are hereby presented:

- That deployment of Resource and Asset Management System as full running system in

Functionality and Portability (4.6). As a whole, the obtained mean value of 4.61 indicates the proposed system was “Excellent”, and was recommended for use in East West Seeds Co. Inc [1-3].

the East West Seeds Co. Inc., be carefully considered;

- That inclusion of features such as a chat or instant message is made part of the system in addition to mails.

## References

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