



A CASE STUDY ON INEWS TV: DESIGNING BROADCASTING EQUIPMENT INFORMATION SYSTEM AND MONITORING SYSTEM

Adi Prianto,

Faculty of Computer Science, MercuBuana University
Jl. Raya Meruya Selatan, Kembangan, Jakarta, 11650
41814110054@student.mercubuana.ac.id

Riad Sahara,

Faculty of Computer Science, MercuBuana University
Jl. Raya Meruya Selatan, Kembangan, Jakarta, 11650
riad.sahara@mercubuana.ac.id

Indra Ranggadara,

Faculty of Computer Science, MercuBuana University
Jl. Raya Meruya Selatan, Kembangan, Jakarta, 11650
indra.ranggadara@mercubuana.ac.id

Manuscript History

Number: **IJIRAE/RS/Vol.06/Issue05/MYAE10082**

Received: 02, May 2019

Final Correction: 09, May 2019

Final Accepted: 10, May 2019

Published: **May 2019**

Citation: Prianto, Sahara & Ranggadara (2019). A CASE STUDY ON INEWS TV:DESIGNING BROADCASTING EQUIPMENT INFORMATION SYSTEM AND MONITORING SYSTEM. IJIRAE::International Journal of Innovative Research in Advanced Engineering, Volume VI, 334-341. doi://10.26562/IJIRAE.2019.MYAE10082

Editor: Dr.A.Arul L.S, Chief Editor, IJIRAE, AM Publications, India

Copyright: ©2019 This is an open access article distributed under the terms of the Creative Commons Attribution License, Which Permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Abstract: Inews TV has a section that serves to manage broadcast equipment used for filming needs. Producer Assistance for each program does not know what equipment is available in logistics, so there is often a misunderstanding and is not maximal in fulfilling the facilities and infrastructure of the need for shooting. Inefficient use of time when there is a queue of booking filing forms provided by cameramen that has been validated by the coordinator of various program events, enabling human error to occur when inputting data into Microsoft Excel applications or recording on the loan form. In this research a design will be made using the UML method and the current analysis is analyzed by SWOT. The results of this study explain the design in the form of UML results and application design made to answer the problems faced.

Keywords: Equipment, SWOT, UML, Validating.

I. INTRODUCTION

In delivering information, television stations need broadcast equipment to support the smooth delivery of information. Broadcast equipment used on television stations has a number and types that are not small, so a system is needed to manage the broadcast equipment. In coordinating, the broadcast equipment loan system at PT. Inews TV uses e-mail as a media order tool by PA (Producer Assistant), and equipment that has received validation from the coordinator will be taken by the user for coverage. Each equipment request sent by e-mail to each PA, will be checked by the coordinator whether the equipment is available and whether its use has been validated by the task coordinator, without the approval of the equipment coordinator it cannot be used. The logistics officer inputs each equipment data that has been validated by the Coordinator into the Microsoft Office XI application and development in information technology affect scientific particular expertise [1].

By using the application data duplication often occurs and there are no settings for access rights to avoid misuse of data that might occur. In addition, PA who orders equipment and coordinators are often not synchronized in requesting and approving the use of certain equipment, because they do not know the equipment available for use. It takes a system that can accommodate the needs of each user, starting from the logistics side to provide a list of equipment that can be borrowed, the user borrows according to the needs of all available equipment lists, and the coordinator can provide validation of the use of the equipment or reject it. Thus, there is no communication because all loan processes can be monitored properly by all parties.

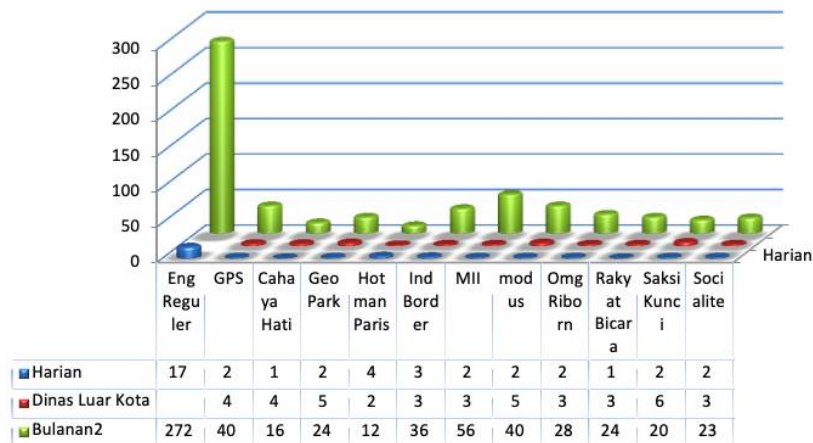


Figure 1. Daily coverage report

figure 1, illustrates the average daily coverage of each program, we must data in daily reporting so that there is no overlap in the use of tools between one program and another program and ensure that all programs that have been accredited by the coordinator can be run well. One of the most crucial things here is that even though administratively all data collection is going well, but it only speaks from the admin side, while from the user and coordinator side it has not been able to see the availability of tools to fulfill the program that will be run right. This happens continuously so that many programs cannot be supported and cannot be run, users assume that the equipment needed can be supported from logistics, but because knowledge about tools is very minimal both from decision makers namely coordinators and users who submit orders, which often happens is delayed or produced a program is not in accordance with the schedule that has been set.

A. Research Problems

Based on the background described above, the outline of the problem is:

- 1) How to design broadcasting equipment information system and monitoring system?
- 2) How to develop broadcasting equipment information system and monitoring system?

B. Limitation of Research

This application will run with a web 3.0 based web base platform that requires internet and account ownership of each user to be able to use it. Based on the formulation of the problem above this research is limited by the following:

- 1) The main focus of this application is to discuss about Data Collection and Monitoring of Broadcast Equipment.
- 2) Each member can see what equipment can or cannot be borrowed to cover
- 3) Every time a transaction occurs the system will update each change
- 4) This system can display a list of tools, programs, locations and active users

C. Purpose And Objectives

The purpose of this study is to find a solution and build a system that might be applied so that the needs of each user, starting from the logistic side presents a detailed list of equipment, users can use that information to meet their needs, and the coordinator can provide validation of the tool or reject it. Thus all loan processes and coordination can be monitored well by all parties. And the benefit of this implementation is:

From the objectives of the research above there are some that were obtained by researchers including:

- 1) To know detailed information about available equipment If the information received is less detailed about the specifications of the equipment, the damage that is on the equipment, will cause the process of coverage to be hampered due to inadequate equipment.
- 2) To know the status of borrowing orders and their validity Status orders that can be immediately known to give options to PA (Producer Assistant) whether or not to hire the equipment needed from elsewhere

- 3) To know the process of equipment management quickly and accurately, manage equipment quickly and accurately make the Coordinator as the validator of the use of tools to decide whether the order from PA can be approved or will actually blacklist PA related to violations committed
- 4) Can find out information on the use of equipment which will be used by whom, where the program will be produced, and when it will be implemented, know who the user is, where coverage will be conducted, and when it will be implemented, giving a better picture to the Coordinator and PA to make an agenda future activities

D. Previous Research

In the first research conducted by Yulistyo and Kurnianda[2], the main problem of this research is to build information systems to help for social activities in the region who want to know and help publish social activities so donors will no longer have to face a difficult situation to find channel donations such as fundraising, book donations, zakat, victims of natural disasters, blood donations, counselling and many others. This research use UML as design and SDLC as a development method. Then there are results conduct this research this system can manage receiving for donation in the form of goods and money and this system can create accountability reports of what activities that have been done. The second research conducted by Rachmawati and Suhendra[3], the main problem is Helpdesk should be assisted by certain software to facilitate data sticking, activity monitoring and reporting and the method use UML as design and waterfall as application development methodology then CodeIgniter as framework to build the software. Then the result is the application can record problems that are carried out systematically, so that the data will not be lost and application can be used as monitoring in handling problems. Based on the research that has been done, in writing this research the differentiator in this study is the interchange lens and spare parts for costization, geotaging for metadata tracking, and Geofencing for location tracking.

II. THEORY FUNDAMENTAL

A. Data Collection

The data collection here focuses on how the data collection model for recording transactions can be in the form of a user interface to make it easier for the admin to set out the entry of the equipment, so that an interface design is needed to accommodate those needs [4].

B. UML

The writer is using the UML (Unified Modelling Language) design method; the method is used to model a system that uses an object-oriented concept. The UML is a language that has become a standard in the industry for visualizing, designing and documenting software systems [5].

C. SWOT Analysis

Business can be identified by using analysis to identify strengths, weakness, opportunities, and threats that can be identified by SWOT analysis. SWOT analysis compares between external Opportunities and Threats factors with internal Strength and Weakness factors[6].

III. METHODOLOGY

A. Collecting Data Method

The collecting data used in this research are:

- 1) Interview : Interviewing here by the author is more emphasized on how the operational logistics runs as a whole, the obstacles faced are the long queues, errors in validating the borrowing of tools, the tool taking form as well as the technical matters associated therein. From interviews we can draw conclusions including:
 - a. Submission of loan orders : Because it is not supported by an adequate understanding of the availability of equipment, the technical specifications of the equipment needed and the damage that may occur in the tool, PA often has to re-submit requests to revise the order before because the equipment needed is actually being used by other users
 - b. Stacking the queue for picking up the tool :
Due to the lack of means of picking up equipment, the form has not been signed by the coordinator as a valid condition for the form to retrieve equipment in the logistics.
 - c. Input data :Compilation of equipment demand lists is done manually based on requests, borrowing and returning equipment, and often data input errors occur
- 2) Observation : The author makes observations directly in the field and also officers who serve directly every need in accordance with orders made by PA (Producer Assistant) that has been validated by the coordinator on duty, and then taken directly by the user by bringing the loan form

B. Problem Analysis Method

From the analysis of recording and reporting of lending transactions, it is found that there are several problems and solutions offered to solve these problems and the following is a comparison between the old and new systems if using a SWOT analysis.

Table 1. PIECE Analysis

No	Aspect	Current Business Process	System Proposed
1	Strengths	In the standard operational procedure that has been carried out, each operator has the duty as a user, coordinator, and operator. Each has run a business process that has been set by the company.	Application design adapts to the actors involved, among others, users, coordinators, operators and plus administrators to control activities functionally or technically in applications that are made
2	Weaknesses	<ul style="list-style-type: none"> - Still recording loan transactions through the form to the computer with office excel so that there are often input errors - Every user in the organization has difficulty getting information on the availability of tools and the coordinator on duty is very minimal in his knowledge about the actuality of the existence of a tool 	Due to the many weaknesses that are obtained, several modules are made to answer these problems, among others, the loan, validation, create programs, and blacklist module modules. All of these modules are equipped with CRUD (create, delete, edit, and update) to complete the functions in the application.
3	Opportunities	Opportunities that exist in the process that runs are seen from the obedience of users in the SOP to run this process, making it easy to make applications in accordance with the business processes that have been made in the company.	The making of modules made in the application is adjusted to the existing business processes which are added by monitoring all equipment and users who use the equipment.
4	Threat	<ul style="list-style-type: none"> - Waste of money in the use of borrowed form paper which is usually 3 sheets and other writing instruments, and this is a serious threat in every operational cost incurred by the company. - Data collection and monitoring of equipment usage and tool tracking are still not optimal, making it possible to lose assets owned by the company 	With the application being made, database data collection is also made, so that the implementation of monitoring the recorded items can be monitored properly. And reduce the paper issued in the current business process.

C. Research Step

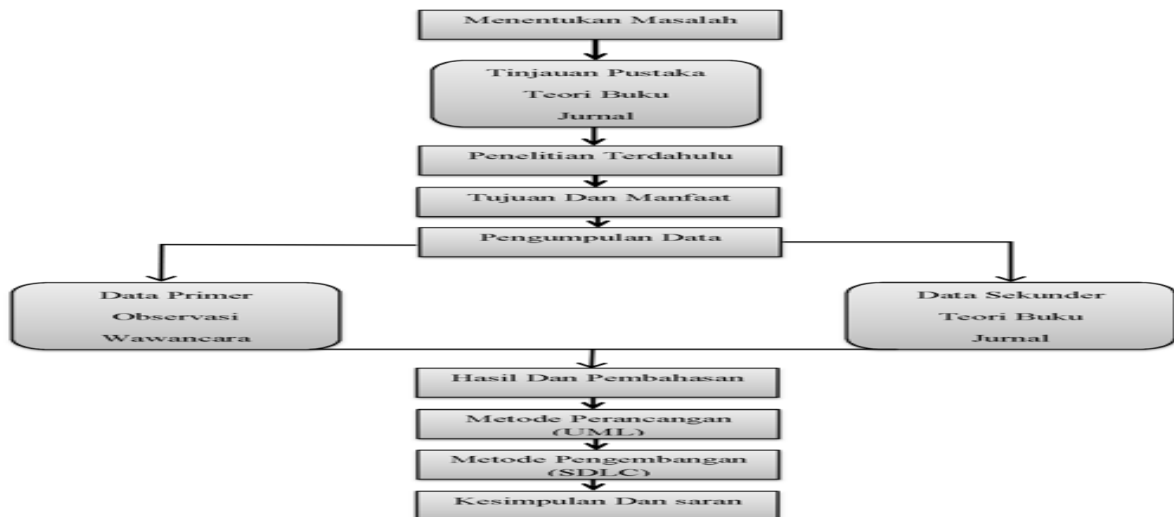


Figure 2. Research Step

Figure 2 explain, the first step is to determine the topic to be examined, then determine the formulation of the problem from the chosen topic and make a literature review that comes from the theory of books or journals. Then studying previous research also compares with the research we do and makes the goals and benefits of the research conducted. To further collect research data by looking for primary data, namely by observation or interview. Look for secondary data from books and journals.

And analyze the data that has been collected using the SWOT method and create a design method with UML and determine the development method with SDLC with the waterfall model. The final step is to make results and discussion of the research carried out and conclusions and suggestions from the research that has been done.

IV. RESULT AND DISCUSSION

A. Analysis of Current Process

To meet the needs of a report, both news and other programs, an Assistance Producer gets a direct mandate from the Producer to estimate the equipment requirements of the event to be covered, for which the PA is required to list the equipment list and after obtaining approval from the Producer then the PA sends the list through the outlook email to the logistics that will be followed up by the coordinator on duty at that time.

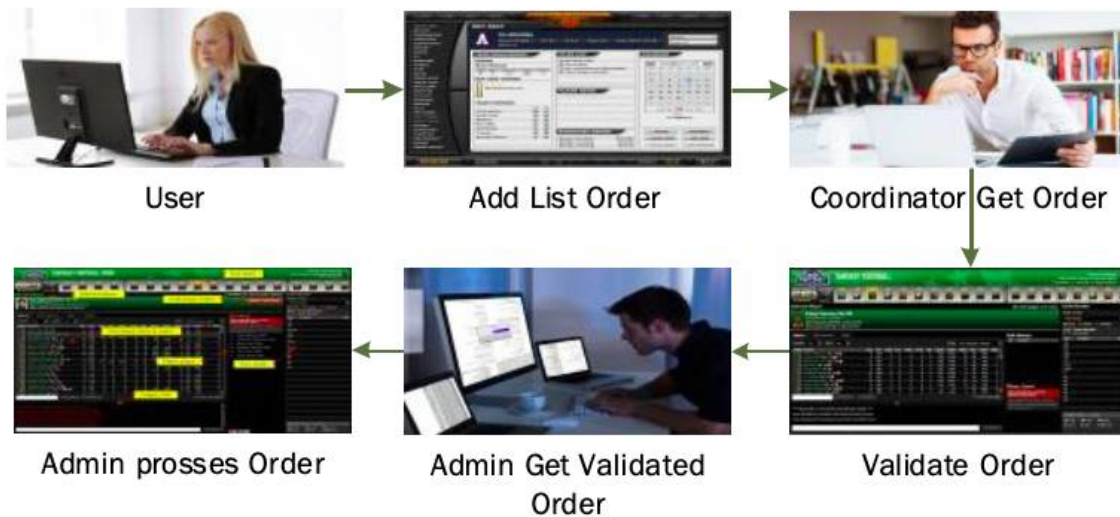


Figure 3. Running Process

Figure 3 explains how a PA makes a list of equipment and then sent via e-mail, e-mail containing a list of equipment is received by the equipment coordinator then sorted according to the availability of which tools will be supported and not, for equipment that is not supported the coordinator will provide recommendations that may be done by PA, for example, borrowing equipment from the orange garden logistics that is still in a group with MNC, a list of equipment that is supported and validated will be sent to the admin for processing as loan equipment.

B. Use Case Design

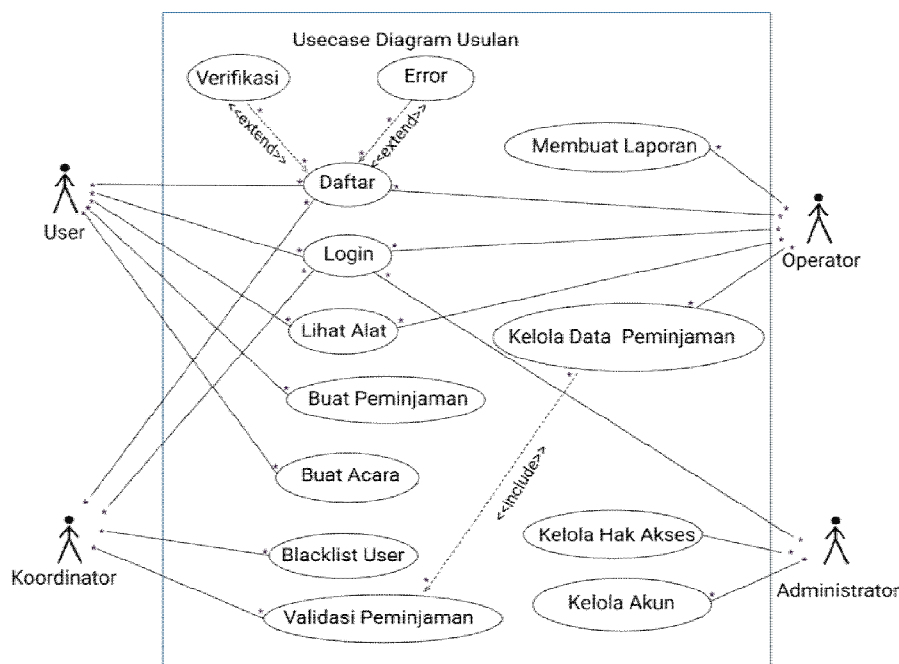


Figure 4. Use case diagram of the system to be created

Use Case Diagram is a UML (Unified Modeling Language) diagram model used to describe the expected functional agreement of a system. Use Case is always made first, but another sequence of diagrams is created depending on the project and personal preferences of analysts [6]. Figure 4 shown an describe, This use case has 4 actors, namely the user, coordinator, operator, and administrator. In this use case describes the case that occurs in an application designed by monitoring items borrowed by the user. In this design the loan validation is done to reduce the borrowed items lost with registered users.

C. Dashboard Design



Figure 5. Application Development Discussion

figure 2 is the dashboard of the Administrator and operator wherein it is the operational control center that can be performed by the operator in performing service to the user and management of the equipment is also reporting, but for administrators having a special window that can only be accessed by one application administrator, the main task of the administrator here is to regulate the human resources in the system, besides that it also regulates the path of the system and makes or implements system improvements if needed.

D. Validate Order

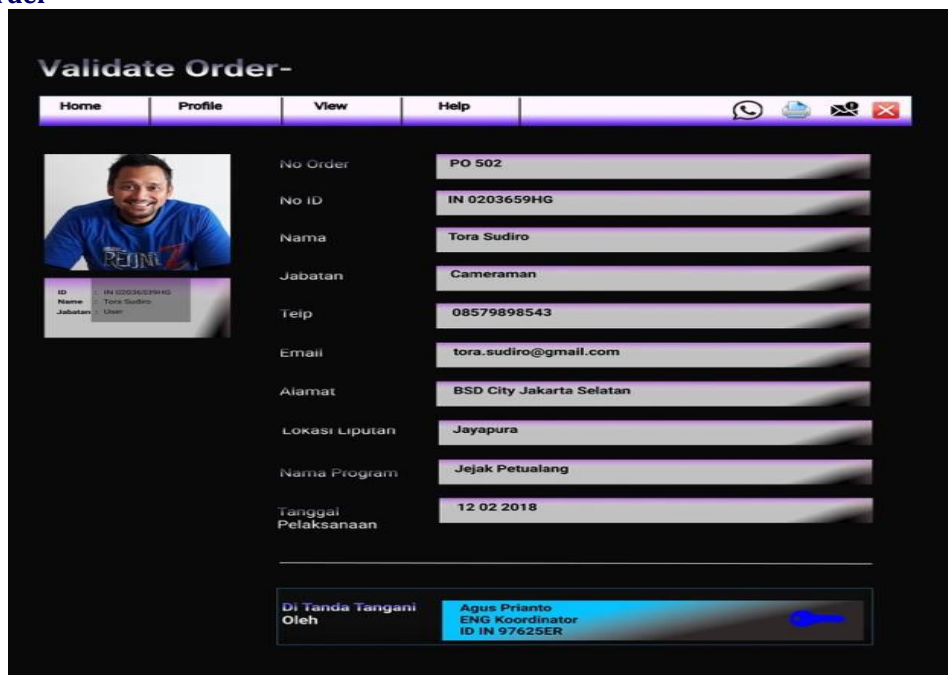


Figure 6. Application Development Discussion

Figure 6 explain how the Order was validated by the ENG coordinator for later after being validated the user concerned can retrieve the equipment that has been booked into the logistic by referring to the booking code

V. CONCLUSION

Based on the results of the implementation of the design that has been done, then the conclusion of the use of mobile-based application of Treasury applications on the students, as follows:

- 1) This application functions as a tool for data collection monitoring and tracking tools, with web-based technology that can facilitate each user in the system to view, select and submit equipment lending orders and can do real-time data collection and monitoring about the availability of a tool to meet the needs of coverage daily. This application provides flexibility for users to make the program will be produced along with the date of its implementation.
- 2) The application can help the coordinator to blacklist problematic users and delete the user in the blacklist if the problem is solved. Coordination of borrowing equipment can be done in this application by using the chat feature in it to avoid the perceptions between the user admin and coordinator. Notifications from each transaction will be sent to each user associated with the order made. This application can display a report on borrowing and returning the tool per day, month or year. Each loan report, return or incoming order can be printed if needed

REFERENCES

1. I. Prihandi and S. Zubair, "Prototipe Text Recognition dengan Klasifikasi Neural Network dan Text-to-Speech pada Huruf Aksara Jawa," in Proceedings of the Informatics Conference, 2015, pp. 14–17.
2. R. Yulistyo and N. R. Kurnianda, "Analysis and Design of Information System for Social Services Administrative of 'Semut Adventure' Natural Lover Community in Kembangan Utara Country State with Web Based Method," International Journal of Computer Science and Mobile Computing, vol. 7, no. 7, pp. 11–19, 2018.
3. E. Rachmawati and M. K. Suhendra, S.Kom, "Web-Based Ticketing System Helpdesk Application Using CodeIgniter Framework (Case Study: PT Commonwealth Life)," International Journal of Computer Science and Mobile Computing, vol. 7, no. 12, pp. 29–41, 2018.
4. V. M. M. Siregar, "SISTEM INFORMASI PENDATAAN LOGISTIK AKTIVA TETAP PT. BANK CENTRAL ASIA, Tbk KANTOR CABANG PEMATANGSIANTAR," Jurnal SISTEMASI, vol. 7, no. 3, pp. 250 – 258, 2018.
5. A. Dennis, B. H. Wixom, and D. Tegarden, SYSTEMS ANALYSIS & DESIGN An Object-Oriented Approach with UML, 5th ed. Massachusetts: John Wiley, 2015.
6. F. Rangkuti, Analisis Swot Teknik Membedah Kasus Bisnis. Jakarta: Gramedia Pustaka Utama, 2002.
7. Y. Firmansyah and Udi, "Penerapan Metode SDLC Waterfall Dalam Pembuatan Sistem Informasi Akademik Berbasis Web Studi Kasus Pondok Pesantren Al-Habi Sholeh Kabupaten Kubu Raya, Kalimantan Barat," Jurnal Teknologi & Manajemen Informatika, vol. 4, no. 1, pp. 184–191, 2018.
8. R. A. Sukamto and M. Shalahuddin, Rekayasa Perangkat Lunak Terstruktur Dan Berorientasi Objek. Bandung: Informatika, 2013.