# INVENTORY MANAGEMENT INFORMATION SYSTEM DEVELOPMENT AT BPRTIK KEMKOMINFO JAKARTA

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***Abstract*— The Institute of Training and Research for Information and Communication Technology (BPRTIK) is an institution under the Ministry of Communications and Information Technology (KEMKOMINFO). Since this Institution manages its inventories by using spreadsheet so that the data are not synchronized properly and prone duplication of data. The inventory reports such as maintenance process reports are also done manually and are recorded in papers that have not been organized into a single database, making those reports are vulnerable to a loss or corruption of data. In addition, the process of task's assignment and monitoring are still done manually by using a memo or even verbally which then lead to the undocumented reports. In this study, the data were collected by interview, observation and literature study. Rapid Application Development (RAD) and Object-Oriented Approach using Unified Modeling Language (UML) were used as the system development and design methods respectively. The results of this study is inventory management information system, which can support and manage the inventory's processes such as the process of controlling and monitoring, maintenance, assignment and reporting.**

***Keywords—inventory management; Rappid Application Development, United Modelling Languange***

## I. INTRODUCTION

In the era of technology, people are forced to be a technologically aware person. This rapid development has given many benefits to the humankind especially in the process of communication and getting information.

Moreover, an organization or company also needs technology in order to improve the productivities to get the maximum output. It applies also for the division of state property and assets of the Institute of Training and Research for Information and Communication Technology (BPRTIK).

BPRTIK is an institution under the Ministry of Communications and Information Technology (KEMKOMINFO) that aims to provide training and research in the field of Information and Communication Technology. Division of state property and assets, one of many divisions in BPRTIK, is assigned to manage inventory on BPRTIK building.

However, the inventory of the BPRTIK has not yet organized properly. Most of the inventory management are done by using a tool such as a spreadsheet, which might cause unsynchronized and duplication of data. Moreover, the reports are saved in the form of hardcopy not saved in one single database. The assignment and monitoring process also are done manually by memo sometimes even just verbally. All of these may lead to redundancy data and difficulties to supervise and monitor the results of the assigned tasks.

## II. LITERATURE REVIEW

### A. Definition of Management

Management is 'the art of managing the available resources, such as people, goods, money, thoughts, ideas, data, information, infrastructure and other resources in his power to be fully utilized in order to achieve organizational goals effectively and efficiently' (Joseph, 2012, p.10) [1].

### B. Definition of Inventory

According to the Indonesian Big dictionary (KBBI) inventory is 'a list of all the items belonging to the office (schools, companies, boats, etc.) used in carrying out the task' [2].

Inventory items are items that are in the control and management of the department in a usage period of more than one year (Hendrato 2005, p.2) [3].

In the Government Regulation number 27 in the year of 2014, Inventory (inventory management) is an activity to perform data collection, recording, and reporting the results of the data collection State/Region. State Assets are all items purchased or obtained at the expense of the State Budget or derived from other legitimate acquisition.

### C. Similar Research

Previous research that has been done around this topic including a study that has been conducted by Arip Saripudin entitled 'Inventory Information System Procurement Intranet on the Faculty of *Dirasat Islamiya*h Syarif Hidayatullah State Islamic University Jakarta'. The process of data collection use Microsoft Office and the result of this study is Inventory Procurement system based on intranet that simplify and accelerate the process of inventory and procurement

## III. Research Methodology

### A. Method

Research was conducted on inventory management BPRTIK KEMKOMINFO Jakarta.

#### 1) Object Research

The study was conducted in the division of state property and assets of BPRTIK KEMKOMINFO Jakarta.

#### 2) Research Tools

Authors used an interview techniques with head of state property and asset division. The questions are intended to collect a software requirements specification of all stakeholders involved (requirements gathering) on inventory management processes derived from activities that must be met for each process undertaken.

### B. Method of Data Collection

The authors classify the data obtained on the basis of the type of data required. The data is divided into two, namely:

#### 1) Primary Data

##### a) Observation

In this method the authors collected data and information by direct observations on :
Location : BPRTIK KEMKOMINFO Jakarta
Address: Jl.Raya Pisangan Kelurahan Kerta Mukti Kecamatan Ciputat Timur, Kota Tangerang Selatan
Time: April 2015 – Juli 2016

##### b) Interview

The interview was conducted with the aim to obtain the information needed in the design of inventory management information systems.

#### 2) Secondary Data

The author collected, read, summarized and studied the theories related to the topic of this essay. These theories come from books related to design information systems that will be created. In addition, the authors read and learned about similar research topics as a reference and the reference comparison with other similar research, so this system development has added value that difference with previous system.

### C. System Development Data

The system development method used is object oriented method using Rapid Application Development (RAD) which has the following stages :

1. Requirement Planning
2. Workshop Design
3. Implementation System

### D. Framework Thinking


## IV. Discussion and Results

### A. Requirement Planning

#### 1) Instituion Profile

Institute of Training and Research for Information and Communication Technology (BPRTIK) is a training center that located at Jl. Kertamukti No. 10 Ciputat Jakarta. This institution is under the Ministry of Communication and Information of the Republic of Indonesia (MENKOMINFO). BPRTIK was founded in 2009 and was inaugurated on May 31, 2011 by the Ministry of Communications and Information Technology and was attended by the Ambassador of South Korea to Indonesia as well as other stakeholders who have contributed during construction.

BPRTIK KEMKOMINFO is known by the name of PUSTIKNAS because the building was named as PUSTIKNAS Building (National ICT Centre). This BPRTIK has the main tasks as training centers, research, discovery, and development of information and communication technology.

PUSTIKNAS building consists of the main building and dormitory. The main building has function as a training center, data center, and service center. It has a wide range of facilities, including; 10 Laboratory with hundreds of computers, Auditorium, Digital & Broadcasting Studio, Research & Development (R & D), Seminar Room, E-Learning, Video Conference. While the hostel building serves as an dormitory for training participants with a capacity of 180 people. Other facilities are classrooms, dining room, and a fitness room.

#### 2) Analysis of Current Workflow

Analysis of current workflow can be figured as rich picture below:

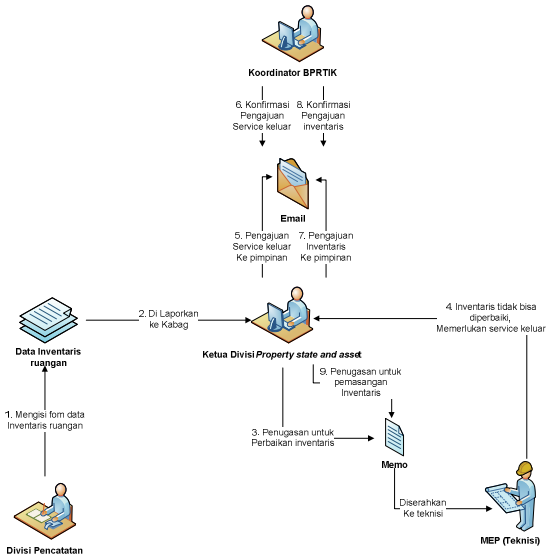


Figure 4.1. Rich Picture Current Workflow

*3) Analysis of Proposed System*

Analysis of the purposed system can be figured as below:

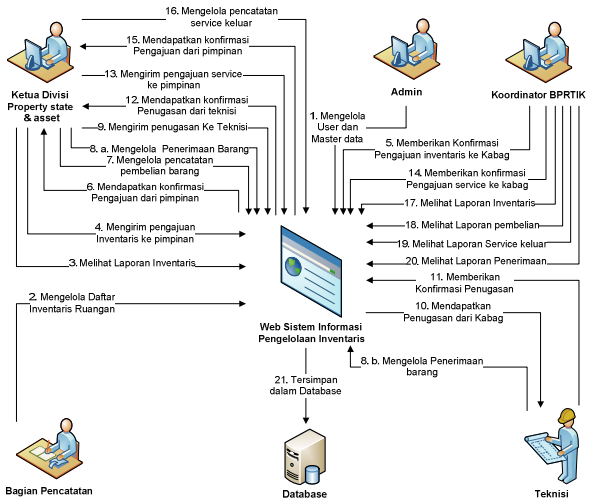


Figure 4.2. Rich Picture Proposed System

## B. *Workshop Design*

*1) Use Case Diagram*


Figure 4.3. Use Case Diagram

*2) Activity Diagram*

Here is example of the activity diagram

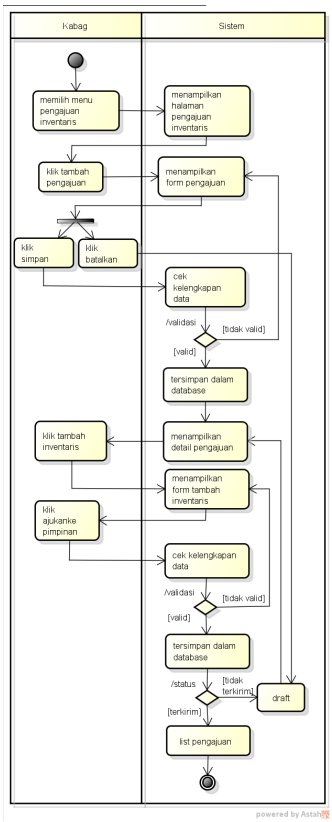


Figure 4.4. Activity Diagram for inventory Request

*3) Class Diagram*

Below is the class diagram for the Inventory Management Information System:

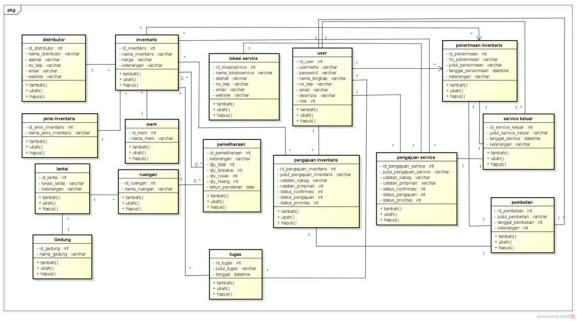

Figure 4.5. Class Diagram

## V. CONCLUSION

1. Inventory Management Information System is able to facilitate the performance of the division of state property and asset inventory management process starts from the process control, maintenance, filing, purchasing, external service, reception, assignment to the reporting process.
2. The system was built using Rapid Application Development (RAD) and Unified Modeling Language (UML)
3. With this system, the data is stored directly into the database so it will minimize the possibility of loss or damage data

## VI. RECOMMENDATION

1. This system could be elaborated and integrated with the Financial System.
2. This system could be expanded in the form of mobile application


## ACKNOWLEDGMENT *(Heading 5)*

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