

# Legislation Information System

Anzaludin Samsinga Perbangsa,  
Information Systems Department,  
School of Information System  
Bina Nusantara University  
Jakarta, Indonesia 11480  
aperbangsa@binus.edu

Meldy Hariawan  
Information Systems Department,  
School of Information System  
Bina Nusantara University  
Jakarta, Indonesia 11480  
meldychen10@gmail.com

Bens Pardamean  
Computer Science Department,  
BINUS Graduate Program - Master of  
Computer Science  
Bina Nusantara University  
Jakarta, Indonesia 11480  
bpardamean@binus.edu

**Abstract**—Each ministry has legislation in force in accordance with its field. The legislation initiator unit in the ministry has the duty to propose legislation programs, conduct discussions, and publish legislation already ratified. However, the implementation of these processes still faces obstacles, ranging from submitting legislation program until publication is still done manually and in hardcopy form. From the list of approved legislation, only a few people can access it. This is due to the lack of publication and limited access to the public. The study intends to develop a system model that manages the legislation process, from proposing legislation, harmonization, and publication. Data collection on system requirements is done by spreading questionnaires, interviews, and literature studies. Followed by conducting the analysis and system design using Object Oriented Analysis & Design (OOAD) method with Unified Modeling Language (UML) notation. The model of the legislative system presented by this study can facilitate the legislative activities in government.

**Keywords**—model, web-based, information system, legislation

## I. INTRODUCTION

Indonesia as a state of law has various laws and regulations. The Constitution of the Republic of Indonesia constitutes the highest position of law so that the laws and regulations under it cannot be contradictory. Meanwhile, each Ministry in the Republic of Indonesia has the duty to propose draft laws, conduct discussions, and publish the laws in accordance with its field. The National Legislation Program is an instrument for the planned, integrated, and systematic legislation drafting [1]. However, every process that exists, ranging from filing legislation program until publication is still done manually and in hardcopy. In addition of the problems, only a few people can access the list of legislation. This is due to the lack of publications and limited access to the public.

The policy of applying bureaucratic reform in Indonesia demands that every business process or activity of government office run effectively and efficiently so that business process transformation from conventional (manual) system to automation system is required. Bureaucratic reform in Indonesia should be supported by infrastructure development to promote government performance. The infrastructure development includes human resources and information technology. The expected benefits of the development of infrastructure, both human and information technology

resources is an increase in service standards so that transparency can be felt by all stakeholders [2].

Understanding the importance of the quality of a well functioning legal and governing system in creating a conducive state climate is now widely accepted. Conversely, poor regulatory environments can increase costs and adversely affect jobs, outputs, investments, productivity, and living standards. But the mechanism of measuring or even conceptualizing it is far from being expected. Some of the things that should be considered are in determining which indicators should be focused, the standardization of rules between countries, and the system's agility in adapting to policy reform [3]. Access to legality has become an important issue in many governance systems around the world. Today, technology is seen as a potential facilitator in accessing regulatory access, especially in terms of improving government efficiency [4]. Content element significantly affected users' interest. If the job portal has had adequate information, users' interest would increase. Users' interest will grow if the job portal offers information that can be easily understood [5]. Appropriate technology and standards are needed to enable all integrated systems to interact and exchange data. Cloud computing technology must also be taken into account in order to address the exponentially growing data storage needs [6].

Based on this, the Ministry needs to develop a legislation information system that assists the legislative process, starting from the proposed legislation program, the process of discussion, to the publication of legislation. The methodology used in the development process is SCRUM. The resulting product is a web-based application that can be accessed using various devices.

Harmonization comes from the word harmony which in Indonesian means the statement of taste, action, ideas, and interests [7]. Harmonization of the law is a scientific activity to the process of harmonization of written law that refers both to philosophical, sociological, economic, and juridical [8].

Network Documentation and Legal Information is a collaboration forum for sharing documents and information as a pillar of law supremacy and intelligent community especially in the era of massive information and communication technology. To be able to face the geographical challenge which is one the key to successful

network management documentation and legal information [9].

The scope of legislation web-based application development is as follows:

- **Proposed Legislation Program**  
In this section, the initiator may propose a new legislation program.
- **Discussion**  
In this section, the initiator may monitor the status of the proposed legislation program. A discussion is conducted by internal parties and initiators. The law of the results will be sent to the Ministry of Law.
- **Publication**  
In this section, the initiator may retrieve the legal product that has been published.

The objectives of the legislation web-based application are as follows:

- Produce information system that can assist initiators to propose legislation programs in the Ministry.
- Produce information system that can help users to monitor the status of harmonization of the ongoing legislation program.
- Produce information system that can help users to publish a list of laws that exist in the Ministry.
- Produce information system that can help users to monitor the public response to the list of laws that exist in the Ministry.

Benefits of the legislation web-based applications are as follows:

- Facilitate the user to know the current status of harmonization
- Enable users to publish the laws publicly.
- Facilitate the user to know public responses to published laws.

## II. METHODOLOGY

This research uses the following data collection and analysis methods:

- **Literature Study**  
Conducting literature study by finding references from journal paper, books, and other references related to the problems from the internet related to the problems.
- **Field Research**  
The first step is observation. The observation is conducted to collect data by observing the business processes directly. Observations were conducted in the Ministry.  
The second step has conducted an interview with Head of Application and Information System Sub-division. The questions asked have been prepared in accordance with the ongoing business process.  
The third step is to use a questionnaire to gather primary data. Placing the questionnaires using an internet-based application, SurveyMonkey which is distributed directly to the users. Then, the Likert scale is used to identify the priority level of each feature.

The distribution of questionnaires was conducted to parties related to the legislation-making process using

SurveyMonkey. This questionnaire was created to determine the user's perception of the features importance in the Information System Legislation.

Questionnaires were sent to respondents via email and shared directly. Respondents were asked to fill in all the questions in the questionnaire by providing a ranking of the most important features. To facilitate the respondents in filling out the questionnaire, then the question is divided into 2 sections:

- Section 1, the demographic data of respondents. Respondents were asked about the age, sex, device, and browser used.
- Section 2, ranking the importance level of features

Sampling techniques can be broadly classified into nonprobability and probability [10]. Sampling technique used in this research is one way of nonprobability is by using a convenience sampling system where sampling is done from users who are easily accessible and willing to be respondents such as distributing questionnaires directly or via email.

Convenience sampling is the least expensive and least time-consuming sample technique of all available sample techniques. The sample unit is easily accessible, measurable, and cooperative [10]. The number of respondents is 100.

### • System Analysis Design

Observations and discussions were also conducted to collect data in this study. Observation is done directly in the ministry office to know and understand the current process that the user as a reference in analyzing the problems that occur. Then the discussion is followed up with the user, which aims to develop web-based applications in accordance with the needs to be achieved.

The method used to develop web-based application project is SCRUM. SCRUM is a framework for software development management with agile and iterative and incremental characteristics [11]. SCRUM depends on teamwork, iteration, and incremental processes to obtain the best result.

## III. RESULTS

### A. Information Needs Analysis

Based on demographic data of respondents, age range 36-45 dominates the number of samples that are 64 respondents, while the age range 25-35 and more than 46 respectively 18 respondents. The respondent's gender was dominated by male, 75 respondents, while women 25 respondents.

Respondents who fill questionnaires using Personal Computer (PC) as much as 65 respondents and as many as 35 respondents using a smartphone. Browser used by respondents dominated by Chrome a number of 73 respondents followed by Firefox 10 respondents, Safari 8 respondents, Opera 5 respondents, Microsoft Edge 3 respondents, and other 1 respondent.

Based on the questionnaire results, the most important feature of the legislation information system, 85% of respondents chose the legal product list, 52% of respondents chose the legal product information detail, 46% of the respondents chose the proposed legislation program, 61% of the respondents had documented the list of proposed legislation programs, and 72% of respondents chose the harmonization agenda. Based on the respondents, 25-35 year olds, 14 of 18

respondents chose the list of legal products as the most important feature. 10 respondents chose detailed legal product information as an important feature, 8 respondents chose proposed legislation program as neutral, 8 respondents chose document list of legislation program as a not important feature and 11 respondents chose harmonization as the least important feature. Figure 1 shows the importance rank of features.

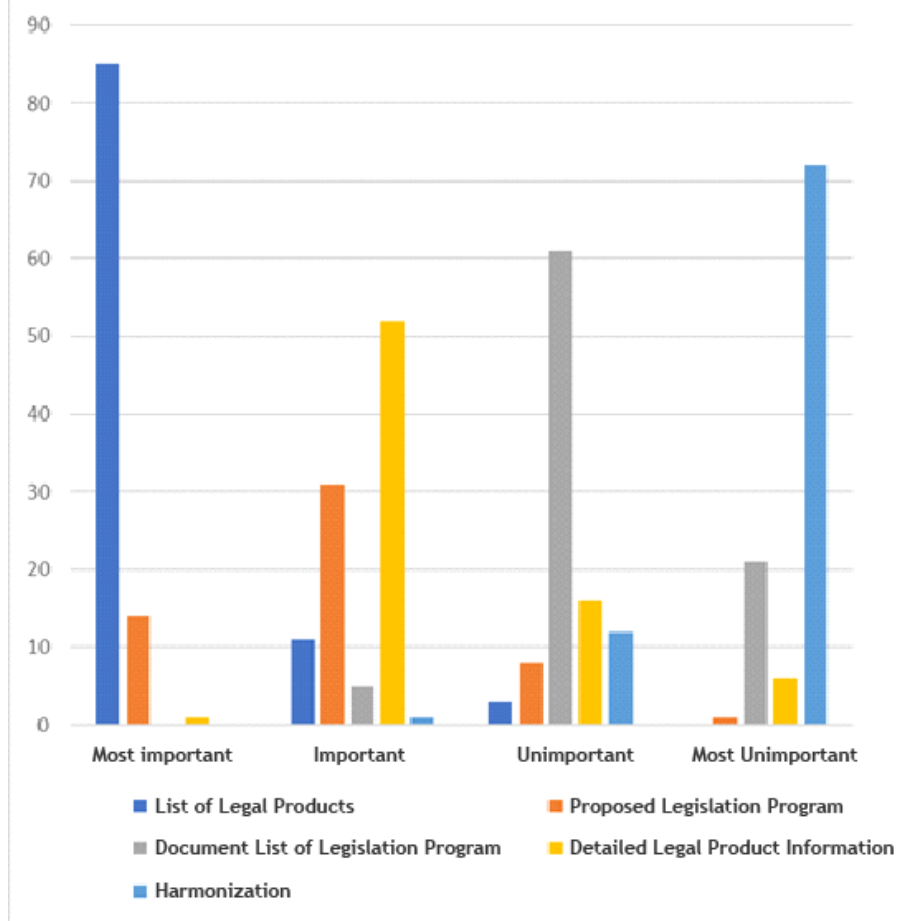


Fig. 1. Features on legislation system

Based on the questionnaire, the most important feature of the legal products, 85% of respondents chose the legal product list, 52% of respondents chose the legal product information detail, 46% of the respondents chose the proposed legislation program, 61% of the respondents had documented the list of proposed legislation programs, and 72% of respondents chose the harmonization agenda.

14 out of 18 respondents aged 25-35 years chose the list of legal products as the most important feature. 10 respondents chose detailed legal product information as an important feature, 8 respondents chose proposed legislation program as neutral, 8 respondents chose document list of legislation program as a not important feature and 11 respondents chose harmonization as the least important feature.

While from the 36-45 age group, 56 respondents from 64 respondents chose the list of legal products as the most important feature. 33 respondents chose detailed legal product

information as an important feature, 31 respondents chose proposed legislation program as neutral, 42 respondents chose document list of legislation program as a non-essential feature and 47 respondents chose harmonization as the least important feature.

Finally, from the age groups above 46 years, 15 of 18 respondents chose the list of legal products as the most important feature. 9 respondents chose detailed legal product information as an important feature, 7 respondents chose proposed legislation program as neutral, 11 respondents chose document list of legislation program as non-essential feature and 14 respondents chose harmonization as the least important feature.

*B. Legislation System Actors*

From the observation, the legislation process is performed by the following actor:

- Initiator

The initiator is the user who proposed the legislation program in the Ministry. The initiator may come from a state university as well as an internal expert from the ministry. The initiator who will propose a legislation program is required to have accounts that have been created by the verifier.

- Administrator

Administrator is a user who verifies the proposed legislative program that has been proposed by the initiator. In addition, administrator can serve as registrars of ministerial legislation programs, create harmonization schedules, finalize harmonization, and the stipulation of legal products that have been finalized. Administrator is selected from internal ministry.

- Validator

A Validator is a user who validates the proposed legislative program that has been verified by the verifier. This validator is the Head of Legal Bureau.

### C. Activity Diagram

The legislative process is started by the administrator proposing the new legislation program through the proposed feature of the legislation program as shown in Figure 2. The initiator fills in the required data such as title, category, type, content material, document type, and address. In this feature,

the initiator can view details of proposals that have been submitted, such as the final status of the proposed legislation program. The administrator then verifies the completeness of the data required for legislative program progress. If the completeness of the data is met, the next step is to group submissions based on legal product status and document type. If the completeness of the data is incomplete or the data has been registered, the administrator will return the proposal with the status of needing repair or rejection.

Proposals received will be added to the legislation program. At this point, the validator will validate the legislation program that the administrator has added. Validation takes place based on internal considerations. Administrators will register the Ministry's legislation program in accordance with the legal product status approved by the validator.

Once registered with the ministry's legislation program, the Administrator will schedule a harmonization based on the legal product title, start date, finish date, place, and agenda. The parties involved in the harmonization process are all stakeholders. This process can take place repeatedly until the legal product is declared eligible for regulation.

Once the harmonization process has been completed, the Validator will validate the harmonized legal product. The validator will send a harmonized legal product file to the Ministry of Law to be ratified as a ministerial regulation. Legal products that have been ratified can be published to the ministry's website.

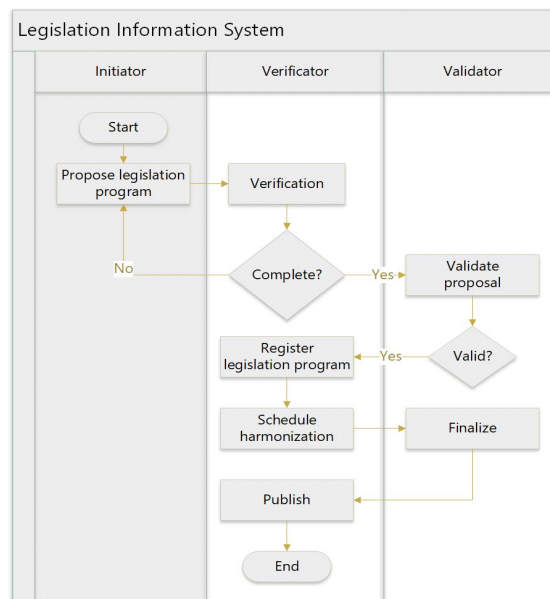


Fig. 2. Activity Diagram Legislation Process

### D. Use Case Diagram

Use case diagrams are used to describe features that will be developed to meet the information needs of each actor in the

legislation system, including initiators, administrators, and validators. The use case diagram is shown in Figure 3.

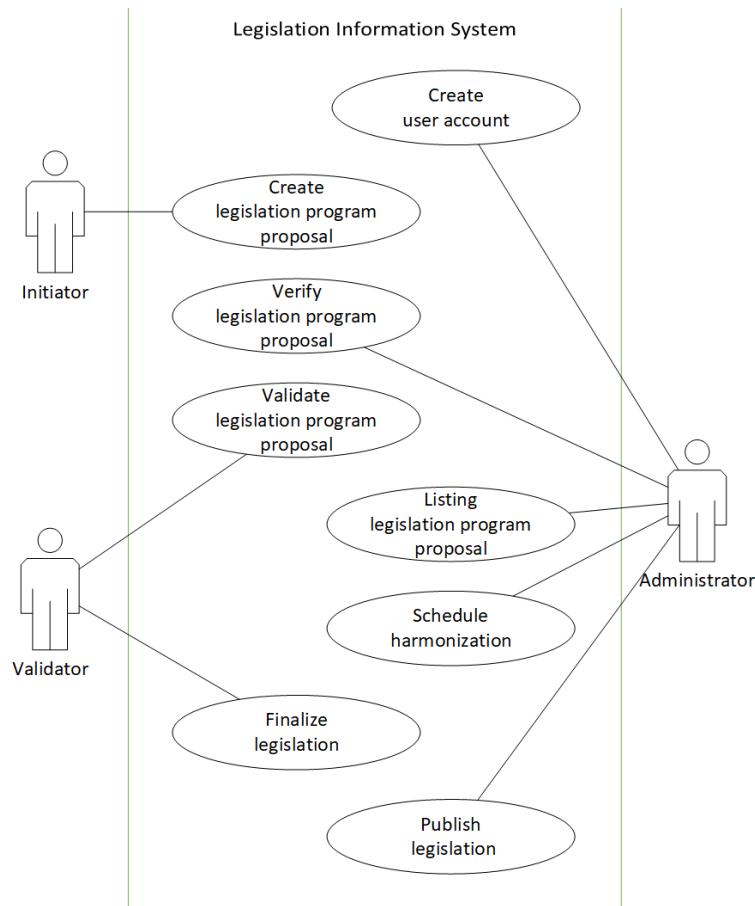


Fig. 3. Use Case Diagram

From business process observation and activity diagram, a use case diagram is created to determine the features that will be developed in the system. The use case shows all actor and features that can be used. First, the initiator selects the proposed legislation program menu, then enters the necessary data such as title, category, type, and content of the program. The data already entered will be stored as a list of proposed legislation programs. On the list of proposed legislation program page, users can download the list of proposed legislation program and conduct assessment.

Administrator views the list of proposed legislation programs on the list, then check the completeness of the required data. Then, the administrator changed the status to need approval.

The validator looks at the list of proposed legislation programs that need approval, then assess the feasibility of the proposed legislation program. If approved, the proposal will return to the administrator. When rejected, the validator will change the status of the proposal to be rejected.

Once the validator changes the status to be approved, the administrator will register the Legislation Program List in the Legislation Program. After the proposed legislation program has been registered and get the ministry's legislative program number, the administrator will create a schedule to carry out the harmonization process. This process can be done repeatedly.

The result of a harmonization process called finalization will produce a number of ministerial regulations that will be registered with the Ministry of Justice. Finally, the administrator publishes the legal products so it can be seen publicly.

#### E. Domain Model Class Diagram

The Domain Model Class diagram illustrates the class, its attributes, and the relationships between classes in the model of the legislative system shown in Figure 4.

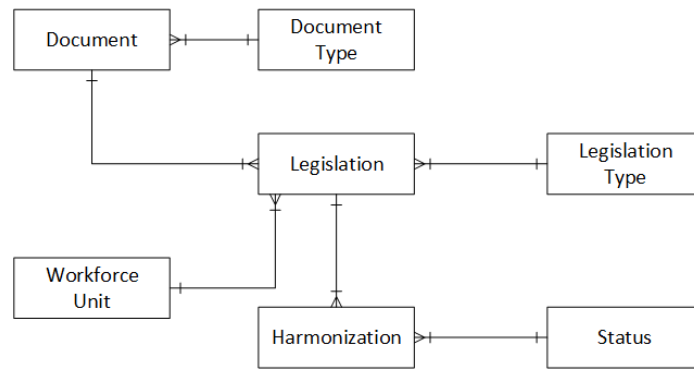


Fig. 4. Domain Model Class Diagram

#### IV. CONCLUSION

Based on the outcomes of the legislation of business process analysis, the Ministry needs Legal Information System to solve problems such as the difficulty of coordinating harmonization schedule determination involving many related parties manually. Publication of legal products is still only internally accessible because the harmonized legal product must have an account to access the data. Another problem encountered is, websites used to distribute legal products to the public are not updated regularly.

Questionnaire results show that 85% of respondents choose the list of legal products to be the most important thing. This proves that the application user is more concerned with the results than the existing process starting from the proposed legislation program. The system model is expected to be able to overcome problems in the legislation process at the ministry.

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