



## **Dashboard Design as a Media for Archive of Letters in the Public Relations and Tuition Sub-Division of the Riau Islands Province Representative Office**

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### **Abstract**

The Audit Board of the Republic of Indonesia (BPK) of the Riau Islands Province Representative Office has a mission to maintain the integrity of the state budget and encourage transparency in public financial management. However, the BPK of the Riau Islands faces challenges in managing archives that still use a manual system. This process is time-consuming, labor-intensive, and prone to loss, damage, and human error. To overcome this problem, a dashboard is needed as an archiving tool that can improve efficiency and security in archive management. This dashboard allows staff to record, archive, and retrieve data quickly, organized, and securely. Additional features such as data filtering, periodic reporting, and access control settings will strengthen the system in maintaining the confidentiality of sensitive data. The implementation of this technology is not only a technical solution, but also a strategic step towards modernizing the administrative system of the BPK Representative Office of the Riau Islands Province. Investment in the development of this dashboard is expected to increase work efficiency, minimize the risk of data loss, and provide long-term benefits for all parties involved in archive management, while supporting the achievement of transparent and accountable financial governance.

**Keywords:** Dashboard, BPK Representative Office of Riau Islands Province, Archives, Data Security, Data Filtering

### **INTRODUCTION**

Along with the development of information technology, many organizations have successfully implemented web-based systems for more efficient document management. The use of a dashboard as a letter filing system allows staff to record, archive, and retrieve letter data more quickly and safely. This system can also be equipped with features such as data filtering, periodic reporting, and access control settings that can increase security and minimize the risk of loss.[1]

The Audit Board of Riau Islands Province is committed to upholding the integrity of the state budget and promoting transparency in public financial management. However, in its efforts to improve performance, the BPK of Riau Islands faces challenges in managing correspondence archives, which still rely on manual systems. This traditional approach is time-consuming and prone to data loss or errors. To address this, designing a dashboard for archiving correspondence is essential to improve the efficiency and security of managing these records. Leveraging technology, such as a web-based dashboard, can streamline processes, minimize risks associated with physical archives, and modernize administrative systems, providing a more responsive and secure platform for managing sensitive correspondence data. This article discusses the importance of implementing such a solution and its potential benefits for the BPK of Riau Islands.[2]

The design of the dashboard as a letter administration system is also a strategic step to modernize the administration system at BPK RI. As the volume of letters that must be managed every day increases, the use of technology to improve efficiency will have a positive long-term impact. With a more organized and secure letter archive management system, BPK Kepri can ensure that the integrity of the state budget and transparency in public financial management are maintained properly.[3]

## RESEARCH METHODS

### Waterfall Method

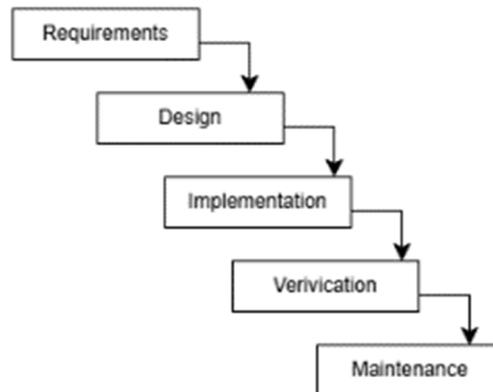


Figure 1. Waterfall Method

Unified Modeling Language (UML) is a graphical modeling language used to design and document software systems, especially in the context of object-oriented software development.[4] Here is a complete discussion of UML, including types of diagrams, their functions, and applications in system development. UML is an international standard set by the Object Management Group (OMG) for modeling software systems. UML was first introduced in 1997 and combines various previously existing modeling methods.[4] UML serves as a communication tool between developers and stakeholders, helping them understand the structure and behavior of the system.[5] This study uses the waterfall method in developing a website-based system for the Design of a Dashboard as a Letter Archive Media in the Public Relations and Tu Kalan Sub-Division of the Riau Islands Province Representative Office. The Waterfall method is a structured software development, consisting of a series of stages carried out in a structured manner.[6]

### Data Types

The types of data used in the research are secondary data and primary data, which are:

1. Secondary Data  
Conducting direct interviews with the staff of the Public Relations and Administration Sub-section of the BPK Representative Office of the Riau Islands Province and conducting direct surveys at the BPK Representative Office of the Riau Islands Province
2. Primary Data  
Journals and reports of practical work at the Ibnu Sina University Campus, Batam and data from the Profile of the Indonesian Audit Board (BPK) Representative Office of the Riau Islands.

### Method of collecting data

Data collection methods refer to the orderly and systematic way in which researchers collect, measure, and analyze the data needed to answer research questions or test hypotheses. These methods are critical in determining the quality and accuracy of research results.

1. Interview
2. Observation
3. Documentation

### Design Method

Here are some important steps and elements in the design method using unified modeling language (UML):

1. Design Stage
2. Commonly used UML diagram designs
3. Implementation
4. System testing and evaluation
5. Deployment

## RESULTS AND DISCUSSION

### Needs Analysis

This process aims to understand user needs and the specifications of the system to be developed so that it can produce a Dashboard Design as a Media for Archives of Letters at the Public Relations of the BPK RI Representative Office of the Riau Islands.

### System Design

This process is very important to ensure that all elements, such as software, hardware, or a combination of both, work together efficiently, are well integrated, and optimally in supporting the overall system performance. Thus, each component can function according to the expected operational objectives, minimize the potential for disruption or error, and increase the reliability and stability of the system.

#### 1. Use Case

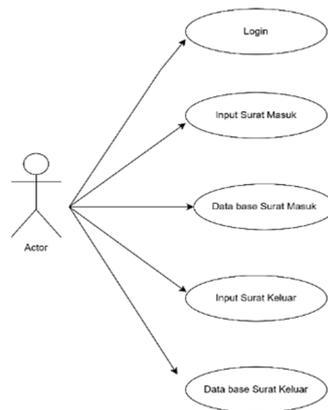


Figure 2. Use Case Diagram

#### 2. Activity Diagram

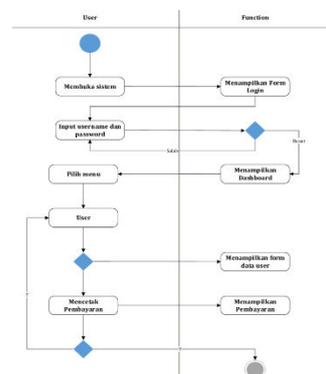


Figure 3. Activity Diagram Login

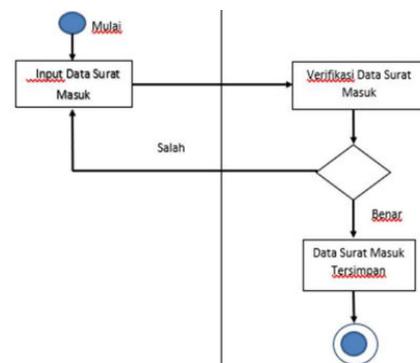


Figure 4. Incoming Mail Activity Diagram

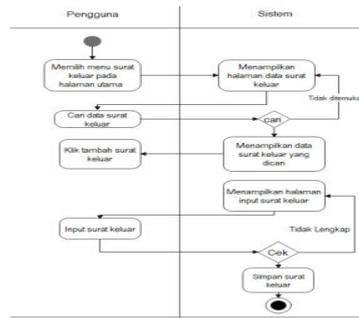


Figure 5. Outgoing Mail Activity Diagram

3. Squance Diagram

Sequence Diagram for admin login process illustrates the interaction between various system components during the login process. Following is the basic flow for admin login. [7]

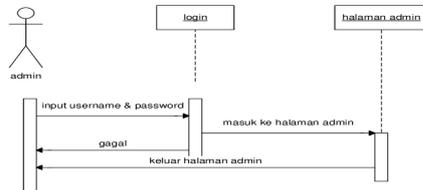


Figure 6. Squance Diagram Admin Login

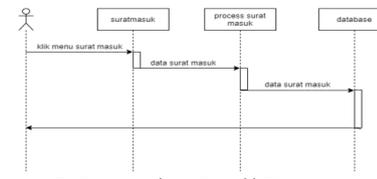


Figure 7. Incoming Mail Process Squance Diagram

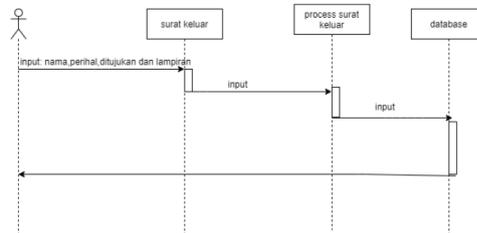


Figure 8. Outgoing Mail Process Squance Diagram

SYSTEM IMPLEMENTATION

System implementation is the process of using new methods or tools, such as applications or procedures, to make work easier, improve results, or solve problems in a workplace or organization.



Figure 9. Main Website View



Figure 10. Website Login Menu



Figure 11. Website Home Page View

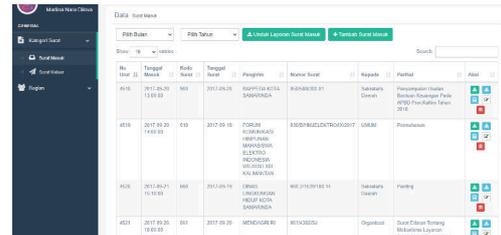


Figure 12. Incoming Mail Page Menu

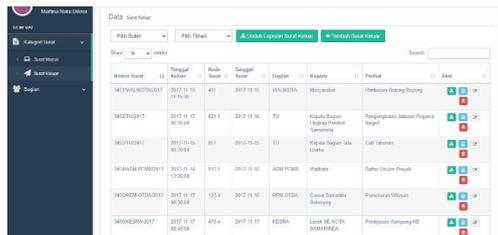


Figure 13. Outgoing Mail Page Menu

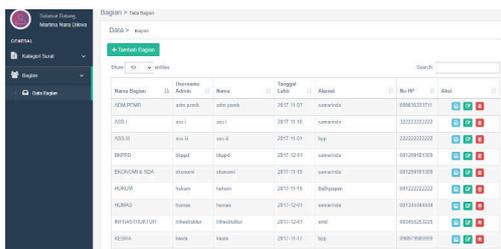


Figure 14. Menu Page Section

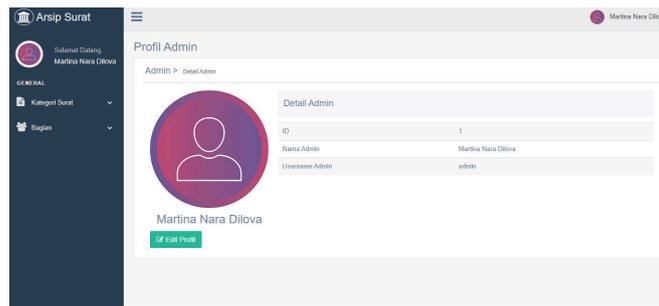


Figure 15. Admin Profile Page View

## CONCLUSION

The Audit Board of the Republic of Indonesia (BPK RI) of the Riau Islands is currently facing problems in managing letter archives because it still relies on a manual system that is prone to loss and damage. Therefore, creating a dashboard for letter archiving is a much-needed solution to simplify, improve, and improve security in managing letter archives. With this dashboard, staff can be faster, safer, and more organized in recording, archiving, and searching for letter data.

In addition, the use of dashboards will also improve data security, because important information can be protected with a sophisticated security system and access rights settings. With the development of technology, the creation of a dashboard for letter management at the BPK Representative Office of the Riau Islands Province is an important step to modernize the letter archive administration system.

Thus, investment in the creation of this dashboard is expected to improve the performance of the BPK Representative Office of the Riau Islands Province in managing letters and documents more efficiently, as well as providing long-term benefits for all parties involved in managing letter archives.

## SUGGESTION

System Feature Improvement to remember the importance of security and convenience in data management, it is recommended to continue to develop additional features on the dashboard, such as integration with other systems at BPK RI or cloud-based archiving options to reduce dependence on physical hardware.

Routine Evaluation and Maintenance which is useful for maintaining optimal performance and ensuring the system remains relevant to the development of BPK RI's needs, it is recommended to conduct periodic evaluations of the dashboard system and routine maintenance. This will help in identifying and resolving problems early on, as well as ensuring the system remains safe and reliable.

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