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The management application design of digital archiving letters

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The management application design of digital archiving letters

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Abstract. Demands for speed and reliable access to services in the management of archive activities are the demands of today's industry and business. Managing and controlling documentary documents is a vital business process because it is related to the accessibility of company data and information. This study aims to design and create a digital mail-based archive management application. The method used in this research is a systematic approach in the design and manufacture of software with the RUP (Rational Unified Process) method with Unified Modelling Language (UML) modelling. The results of this application are expected to help management in archiving services more effectively and efficiently.

1. Introduction

Quality of service in each company is one indicator of the success of a business entity or organization [1,2]. In meeting these indicators, information systems or information applications become a reliable business strategy [3]. Supporting information technology as a supporter in improving service quality that results in access to information that is fast, accurate and accurate for management [4,5].

In some departments or parts of faculties in various universities, a business process that is often done is the management of letter archives [6]. Letter archive activities are very important because they involve official documents and are important for every company [7]. Fixing this needs to be implemented by a good management system as well as improving the management of fast reports and updates [8].

Of the several organizations that exist, most of them carry out the administration process of correspondence manually. This can change admin administration, such as incorrectly codifying letters, misclassifying, long in making reports [9]. Management views this as an issue that needs to be discussed because this administrative process is routinely carried out [10].

The existence of an information system or application of the information in the administrative business process in each office is very helpful in optimizing services [11,12]. The design of an archive management application is one of the key business processes for administrative services in each office. This is in line with the findings of previous studies [5,13,14]. Based on these phenomena, it is necessary to analyse and design a digital web-based archive management information application.

2. Methods

In the architectural design process, the application of digital-based archival management systems uses the RUP (Rational Unified Process) method. Where in this model the global planning of system design

and development will be broken down into phases that are done iteratively, where RUP is part of developing software, object-oriented software [15]. The primary purpose of this model is to create a framework (framework) system design and manufacture of digital mail archive management application web sites that can be customized for commercial interests and more specific projects [16].

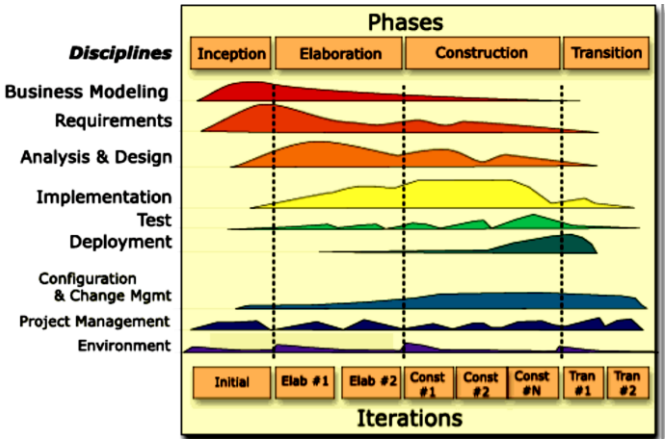

Figure 1. Rational Unified Process (RUP) method [17].

Based on the RUP method in making digital letter archive management applications, it consists of 4 phases including the Inception Phase, Elaboration Phase (expansion/planning), Construction Phase, Transition Phase [18]. In figure 1, it can be seen that in each of these phases, there are six work units (iteration) that must be done in Business Modelling, Requirements, Analysis & Design, Implementation, Test and Placement. Can be used as a model that can be arranged in integrated stages in the design of digital letter archive management application information systems that are modelled with the help of Unified Modelling Language (UML) diagrams [19]. The object of this research was taken from the secretarial department or work unit at one of the universities in Garut, West Java called the Institut Pendidikan Indonesia

3. Result and discussion

3.1. Business modelling and requirements

At this stage, an analysis of the problem is based on observations and findings in the field. In analysing and mapping problems, this step uses the analysis of PIECES (Performance, Information, Economy, Control, Efficiency, and Services). The following are the results:

Table 1. Problem analysis.

Component	Findings
Performance	• The making of administrative reports on letter archives is very long because they have to wait for making reports manually. • Often errors are corrected in documents and reports
Information	• Information submitted is not fast and accurate • Information can only be accessed at the office
Economics	In the process of asking for many Office Stationery such as printer paper and ink as well as other supporting tools.
Control	It cannot be done optimally because of frequent document codification and classification errors.
Efficiency	In one full process flow, it needs a long process which has been done manually and has complicated bureaucracy
Service	The letter or document distribution services cannot be controlled and cannot be validated.

3.2. Systems analysis modelling & design

In making this web-based digital archive management application, an analysis of the system using various modelling. The modelling used for the analysis of this system is Use Case Diagrams and Activity Diagrams.

The following is the Use Case Diagram of a Digital Archive Management Information System:

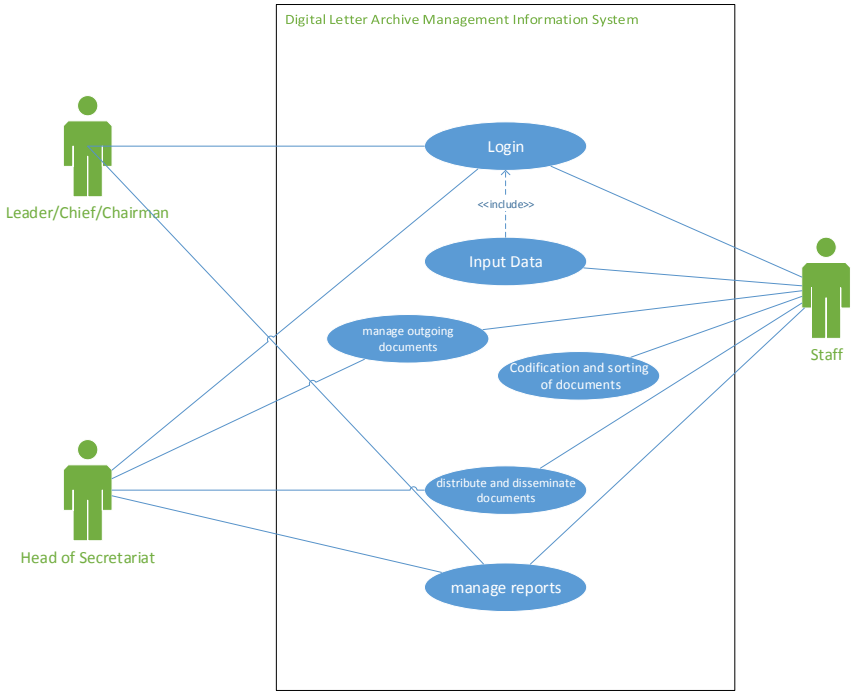

Figure 2. Use case diagram.

The activity diagram is the process of system analysis and design that illustrates the flow of activity towards other activities in a system. In making digital archive management applications, this diagram discusses modelling functions in the system and puts pressure on the flow of arrangements between objects. As for the depiction of activity diagrams outlined in each case, making it easier to discuss workflow. Activity diagrams mentioned: Login, Input Data, manage outgoing documents, document

codification, and sorting, share and distribute documents, manage reports. The following is an example of a Login activity diagram.

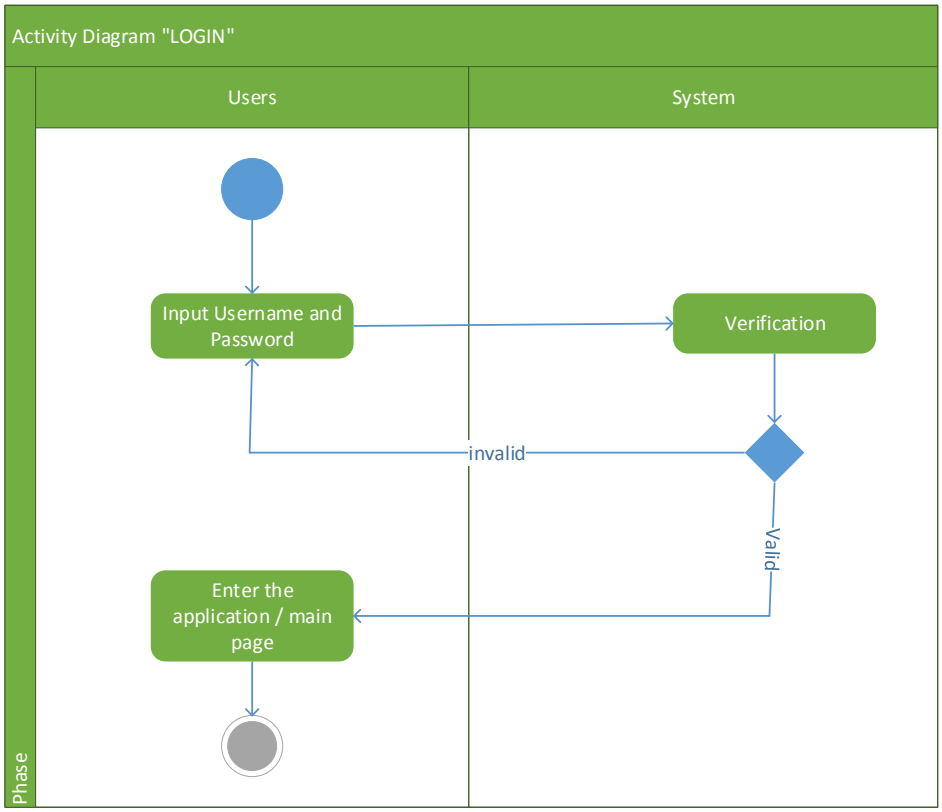

Figure 3. Activity diagram login.

3.3. Designing a digital archive management information system

At the information system design stage, it can be described and mapped by modelling class diagrams and sequence diagrams. Class is a general resolution for a set of similar objects. An object is an example of a class. Class diagram. The class represents something that is handled by the system. The following is a class diagram of a digital letter archive management application.

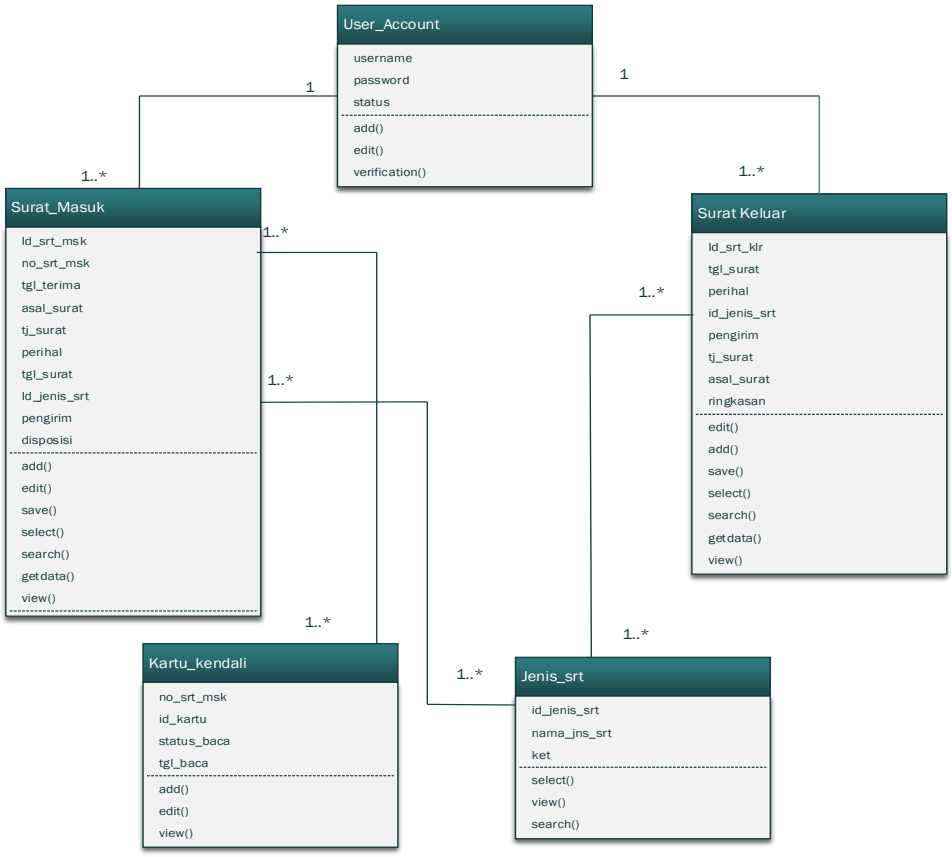

Figure 4. Class diagram.

The sequence diagram in the design of this information system illustrates the interaction between objects inside and outside the system in the form of messages symbolized by time. Sequence diagrams are used in describing scenarios about the steps that arise from responses from events to produce certain outcomes. Workflows are explained by sequence diagrams for digital mail archive management application programs containing Login sequence diagrams, Input Data sequence diagrams, sequence diagrams managing outgoing documents, codification and sorting order diagrams, sequence diagrams distributing and disseminating materials, sequence diagrams managing reports. The following is an example of a login sequence diagram.

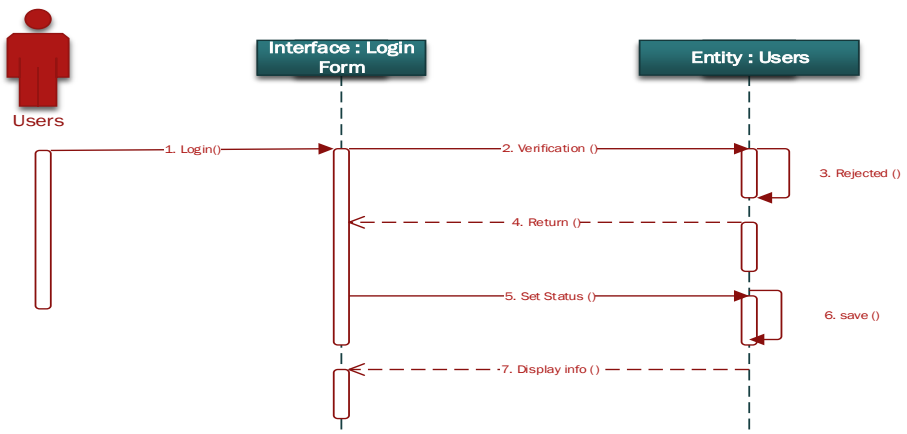

Figure 5. Sequence diagram.

3.4. Implementation of digital archive management information system

3.4.1. Display login form. This page is login access for users to enter the application by entering their username and password.

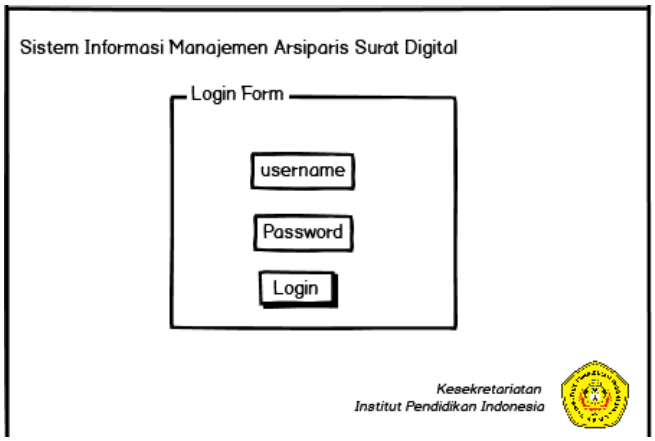

Figure 6. Login form.

3.4.2. Main page display. This page displays the main view that contains information about archive management, in addition, there are several menus that contain features in this application.

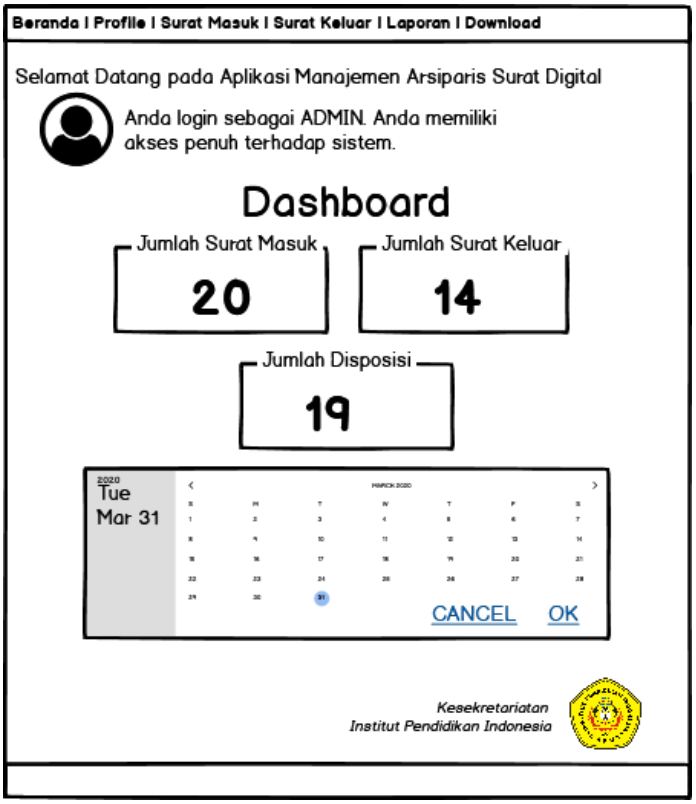

Figure 7. Main page display.

3.4.3. Display of inbox input page. This page is a view of users to add incoming mail data to the organization. Data input is also provided with the feature of uploading a scanned letter file. And used it stored in this application.

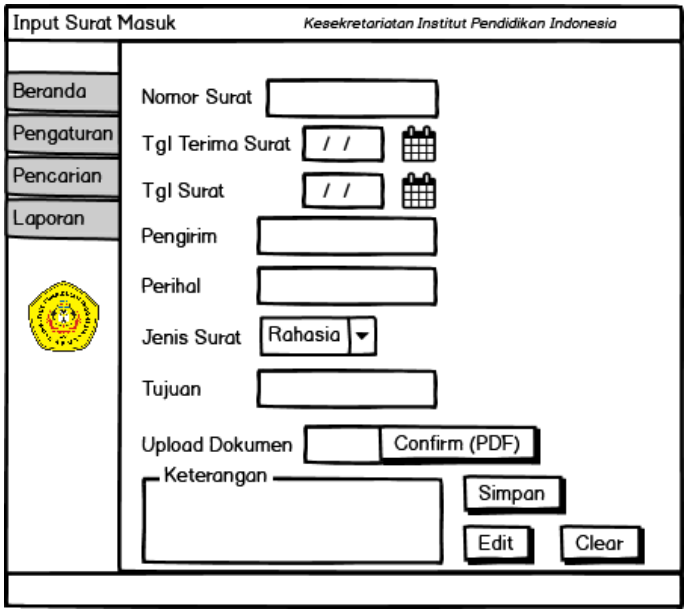

Figure 8. Display of inbox input page.

4. Conclusion

A digital archive management information system is one application that is expected to help the unit's performance in improving its services. The application is supported as a support for business processes that produce fast, accurate, and up-to-date updates. Managerial constraints in managing documents such as errors in data input and errors can be minimized with this application.

This application is made for use by work units that have the task of managing official or non-official letter documents. Then the application is also expected to be used as a medium or Information Technology that helps in service to customers or users and can be implemented to save department workers or work units properly and consistently. This can improve the performance of the organization or company to be optimal.

Acknowledgments

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