Designing Correspondence Administration Information Systems Using User Experience Design Model

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Abstract

Keywords:
Information;
ISO 25010;
System;
User Centered Design;
Quality;

The design of the community service correspondence information system application starts from the data collection method (interviews, observations and documentation) using a user centered design model has 5 stages, namely Empathized, Define Problem Statements, Indentation, and Prototype in accordance with user needs in community service correspondence administration information systems that can overcome existing problems. The results of ISO 25010 testing that has been carried out involving respondents that the resulting software feasibility quality conclusion has a percentage of success with an average total of 95.92%.

1.INTRODUCING

The development of information technology has an impact on the need for information is getting higher and growing rapidly, computers are one of the technologies that are very widely used, used and utilized, both government agencies and private agencies[1], [2]. In today's world of work, technology is the main staple in carrying out all work activities using existing resources, namely computers and internet networks. Every human resource is required to always be updated with technological developments[3], [4]. The application of technology that is clearly seen in an institution or agency including in the field of information, the larger and more diverse data or information collected in an institution or agency, demands good treatment in information management.

Every organization or agency in the implementation of daily administrative activities is inseparable from the process of creating archives, because archives are records or records of every activity carried out. This record is generally called a manuscript or document or recorded information, which in its realization is either in the form of writing, images or sound. The document can be called an archive which is one of the factors in supporting the smooth implementation of administrative activities related to archival activities.

Archives are one of the sources of information that have an important function to support the process of administrative and management activities of an agency. All activities carried out by the agency, be it in the form of proposals, correspondence or other documents will become archives. The recorded information is evidence and documentation or memory for the agency concerned, one of which is in archiving correspondence.

The problem that occurs archiving activities today is still using the manual method. Manual archiving of documents is done using an archive book, and archival documents are stored in a cabinet or filing place. Manual archiving of documents may still be used if the amount of data owned is still small, but archival documents will continue to multiply over time due to the increasing complexity of agency activities and functions. In the process of searching, storing, and processing manual archives still requires more time and energy. Likewise, in the process of community service, especially in making correspondence, it is still not optimal, due to the limited staff who work at the village office so that it takes a long time in the process of correspondence services because in making letters it is still recorded

in each letter form. In the correspondence service can take 1 to 2 hours because you have to queue in making letters as a result of which the process of making correspondence services is not effective.

Based on the problems that have been raised, this research provides solutions in the development of correspondence administration administration information systems using user experience design[5]. User experience design is a plan to provide answers to user problems by prioritizing user satisfaction in designing applications. This method aims to identify, find the needs, and difficulties of users, in order to understand the design of the application made and to improve the quality and make the application design better and in accordance with the wishes of the target users[6]–[10].

The application of the correspondence administration information system using this user experience design allows users to better understand and easily use the application made to maximize staff performance in managing correspondence administration, namely the process of collecting data on making letters, the process of making letters, the process of archiving correspondence. And is expected to produce applications with a more modern design, user friendly and responsive when used.

2.RESEARCH METHOD

The framework of a structured research plot design conveyed through the images submitted by the author can be seen in figure 1 below.

Figure 1. Stages of Research

Problem

The research framework starts from a problem. The problem contained in this study is that digital archives are still done manually so that they are long in the search process and for services that are less than optimal, people must come directly to perform services.

Opportunity

Opportunity to be able to develop a correspondence application information system to improve services to the community.

Approach

The method carried out in this study, namely user centered design, is a method in design that focuses on user needs. Application design developed through user centered design will be optimized and the focus will be placed on the needs of the end user, so it is expected that the application will follow the needs of the user, and users can use the application without changing their behavior.

Purposed

Designing correspondence applications uses the user experience design model in designing the system so that it will produce applications that make it easier for users to use them.

Validation

Testing is carried out using information system success testing using the technology acceptance model (TAM). This test will be performed to system users.

Result

The result of this study is a correspondence Administration Information System using a User Experience design model which will be managed by the admin who will produce data and reports from submissions and making letters made by citizens.

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3. RESULTS AND DISCUSSION

1. Application of User Experience Design Model

The method carried out in this study, namely user centered design, is a method in design that focuses on user needs. Application design developed through user centered design will be optimized and the focus will be placed on the needs of the end user, so it is expected that the application will follow the needs of the user, and users can use the application without changing their behavior. The stages of system design using the user centered design model are explained as follows.

Empathized

In this stage defining existing problems, problems that arise according to interviews conducted about the system that runs in archiving activities currently still use manual methods. Manual archiving of documents is done using an archive book, and archival documents are stored in a cabinet or filing place. Manual archiving of documents may still be used if the amount of data owned is still small, but archival documents will continue to multiply over time due to the increasing complexity of agency activities and functions. In the process of searching, storing, and processing manual archives still requires more time and energy. Likewise, in the process of community service, especially in making correspondence, it is still not optimal, due to the limited staff who work at the village office so that the length of the correspondence service process is still recorded in each letter form.

Define Problem Statements

In this stage, collect data about users who will use the application later. Here is the history data that will use the application later or what is often called a persona. The persona table can be seen in table 1.

**Table 1.** Application User Persona

User	Name

Staff Administration	1. Desktop App
	   Desktop app usage is often used with a usage percentage of 40%.
	2. Web Application
	   The use of web applications is often used with a usage percentage of 80%.
	3. Smartphones
	   The use of smartphones is often used with a percentage of usage that is 90%
	4. Social Media
	   The use of social media applications is often used with a percentage of usage that is 95%.

Cityzen	1. Desktop App
	   Desktop app usage is often used with a usage percentage of 20%.
	2. Web Application
	   Web application usage is often used with a usage percentage of 70%.
	3. Smartphones
	   The use of smartphones is often used with a percentage of usage that is 85%
	4. Social Media
	   The use of social media applications is often used with a percentage of usage that is 90%.

Indentation

In this stage, indentation is by making a correspondence administration information system application to overcome problems that occur in the agency. It is hoped that in making this application can help admis activities.

Prototype

In this stage, the author shares the design created for the application based on the user. Application design based on user can be seen in figure 1 below.

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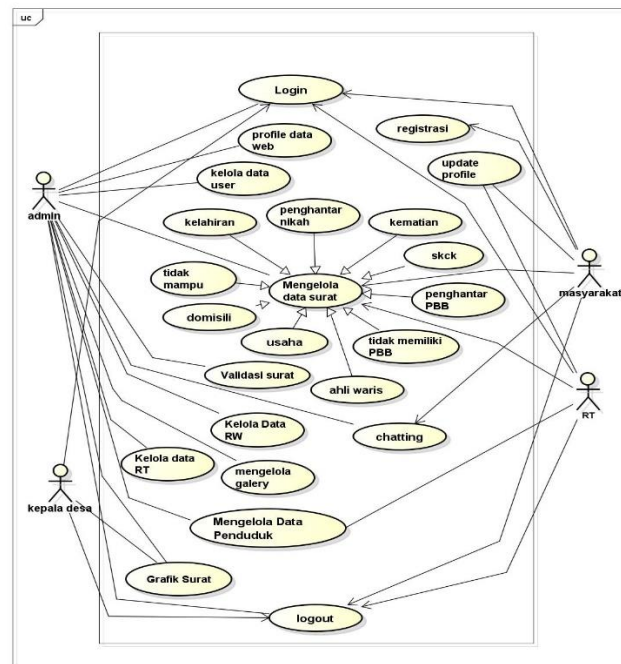
Figure 2. Design Prototype Application

2. Implementation Application

The system implementation has a login menu for admins. On this menu, the admin must enter a username and password to enter the system start page. The login page is shown in figure 3.

Figure 3. Implementation Login Page

The registration menu is a display for registering an account to create a letter. As for how it looks as follows.

Figure 4. Implementation Registration Page

The Domicile Letter Submission menu is a display that displays to input domicile letter data, as for the display as follows.

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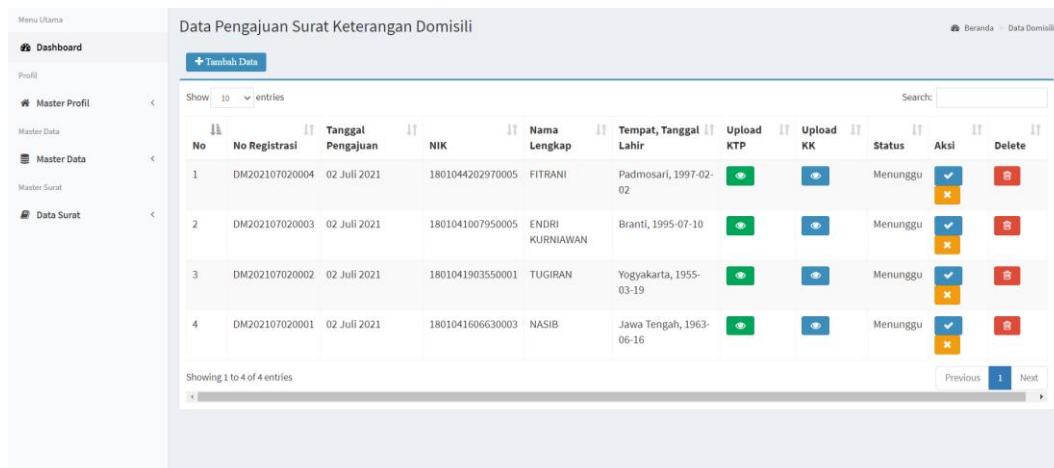
Figure 5. Implementation Letter Submission Page

System testing is done to guarantee quality and also find out the weaknesses of the system. The purpose of this test is to ensure that the software built has reliable quality, that is, able to represent the main study of the specifications, analysis, design and coding of the software itself. In this software testing the author uses a test method that focuses on the functional requirements of the software being built. The method taken is the ISO 25010 test method.

Table 2. ISO 25010 Test Results

Test Aspects	Actual Score	Ideal Score	Total Score	Criteria
Functionality	584	600	97,33%	Excellent
Usability	663	700	94,71%	Excellent
Total	1247	1300	95,92%	Excellent

The following is a graphic display of ISO 25010 calculation results, can be seen in Figure 6 below.
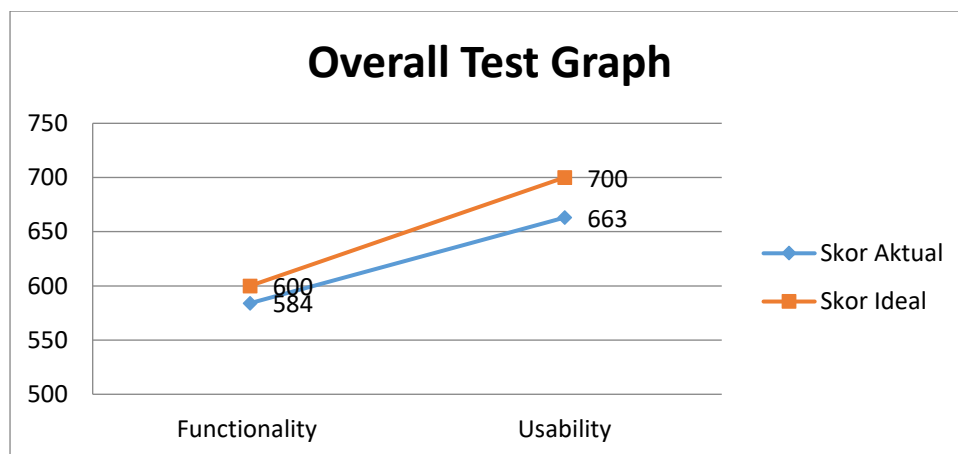
Figure 6. Graph of Overall Calculation Results

Based on the results of ISO 25010 testing that has been carried out involving Respondents that the resulting software feasibility quality conclusion has a percentage of success with an average total of 95.92%, so it can be concluded that the percentage value obtained shows the overall quality of the software has a Very Good scale for the elaboration of questionnaires related to ISO 25010 testing that has been carried out.

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4. CONCLUSION

Making and designing correspondence information system applications for community services starts from data collection methods (interviews, observations and documentation) using user experience design methods, making system designs using Unified Modelling Language. The results of ISO 25010 testing that has been carried out involving respondents that the resulting software feasibility quality conclusion has a percentage of success with an average total of 95.92%. The benefits of the system built can make it easier for the community to find out village information and carry out the correspondence administration process quickly and precisely without having to waste time coming and queuing in making correspondence.

5. REFERENCES

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