Design of Blood Donors Application Web-Based

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Abstract— *Blood donor application is a website based application that is used to manage blood stock inventory and provide information related to blood donor drive schedules. Blood donor application is a process to ensure that donated blood is safe and in accordance with medical procedures. This requires an application that can manage blood in and out. The design method used is the prototype method. The results of the design of this system are expected to optimize the process of managing blood stocks and information related to the blood donor drive schedule.*

Keywords— *Blood donor, prototype, design.*

I. INTRODUCTION

Management and delivery of information has a very important role for every company or organization today, especially in companies that have a high level of routine and have a lot of data that must be processed. In managing data requires a tool to make it easier.

Blood donor is an activity in the health sector that is needed. In this case the hospital and the Indonesian Red Cross are managing blood donor data. For this reason, a tool is still needed to be able to know and manage blood donations.

The goal to be achieved is to make it easier for donors to get information related to blood stocks in the Indonesian Red Cross, make it easier for officers to manage data on blood stock and manage information and news related to blood donor raising schedules, and make it easier for donors to get information and news regarding blood donor classification activities.

In this writing, the author's presents in five parts, I. Introduction, in this section will be described about the formulation of the problem and the purpose of research benefits. II. Platform Theory, in this section will be described briefly the theory that supports the preparation and writing of this journal. III. Methods, in this section will be discussed about the exposure method used by the authors. IV. Result and Discussion, in this section will be described about analysis and design of the information systems. V. Conclusion. In this section, the author gives the conclusion of what has been discussed in previous chapters.

II. PLATFORM THEORY

A. System Information

An information system can be defined technically as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision-making and control in an organization. In addition to supporting decision-making, coordination, and control, information systems may also help managers and workers analyze problems, visualize complex subjects, and create new products.

B. Unified Modelling Language

According to Dennis, Unified Modelling Language (UML) is the standard language for visualization, specification, construction and documentation of the artefacts of software, and can be used for all stages in the system development process from analysis, design to implementation, according to Denn UML provides some standard notation and diagrams that can be used as a communication tool for system developers in the process of system analysis and design. Diagrams in UML are defined as information in various forms that are used or produced in the software development process. Based on the perspective in object-oriented analysis and design process with UML, there are several main diagrams in UML that can be used, namely: 1. Use Case Diagram. Describe the expected functionality of a system. 2. Activity Diagram. An analysis model used or describes an activity process 3. Sequence Diagram. Ilustrates the objects in use cases and messages that run in a use case and 4. Class Diagram Describes the number of classes and relationships between classes in the system.

E. Related or Previous Research

In system information major, we found two kinds of journal that related to our current works. We can see it briefly in this following sentences:

1. The research that conducted by Muhammad Zaelani, this research resulted in the donorKU application providing easier and more practical services to donors without having to come face to face to submit services.
2. The research that conducted by Castaka Agus Sugiatno titled Design of Mobile Based Blood Donation Application (Case Study: PMI Bandung Regency). This research results with the existence of this application, agencies can disseminate blood stock data, schedules, and expand information or news about blood donations and can ask questions through the Android application.
3. The research that conducted by Hamzah to help the public to get information related to live blood donations so that the availability of blood bags at PMI is no longer limited.

III. METHOD

A. Research Method

This research is qualitative descriptive method.

B. Analysis Method

Analytical techniques used in this study is by using object oriented analysis (OOA) with UML. In the analytical process,

the analysis techniques performed are 1. data and information analysis that obtained from interviews, library studies, and documentation, 2. Analysis of functional, non-functional, and user needs. Modeling with use case diagram

C. Design Method

The design technique used in this research is using object-oriented design (OOD) approach. In the design process, the designing techniques are: 1. Database design. Modeled with an entity relationship diagram, 2. Design of static structure of information system specification. Modeled with a class diagram, 3. Designing user interface. Includes the design of navigation, input form, and output form. Modeled using wireframing.

IV. RESULT & DISCUSSION

A. Functional Analysis

Here is a needs analysis:

1. The need to manage blood stock data in order to improve the quality of services to people who are in need of blood
2. The need to manage donor data which is carried out to reward each donor who has made a blood donor
3. The need to manage information related to blood donor event activities
4. The need to quickly create periodic data reports
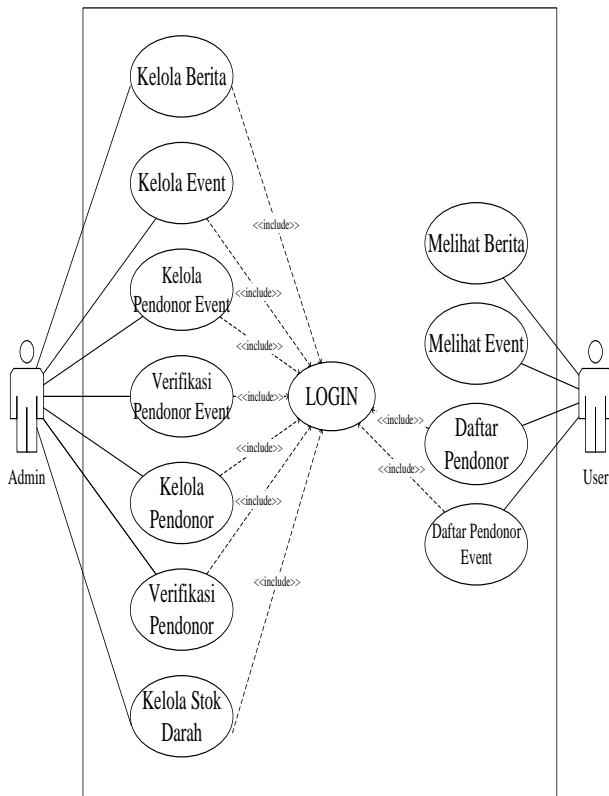5. The need to create structured blood stock data

B. Use Case Diagram

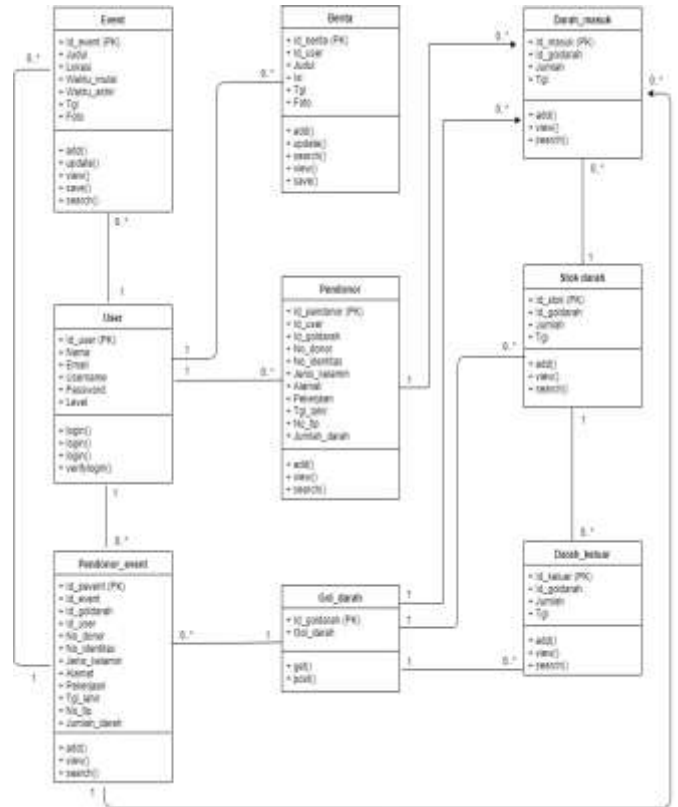Figure 1 Use Case Diagram

C. Database Design

Figure 2 Class Diagram

D. User Interface Design

Figure 3 Design Home Page

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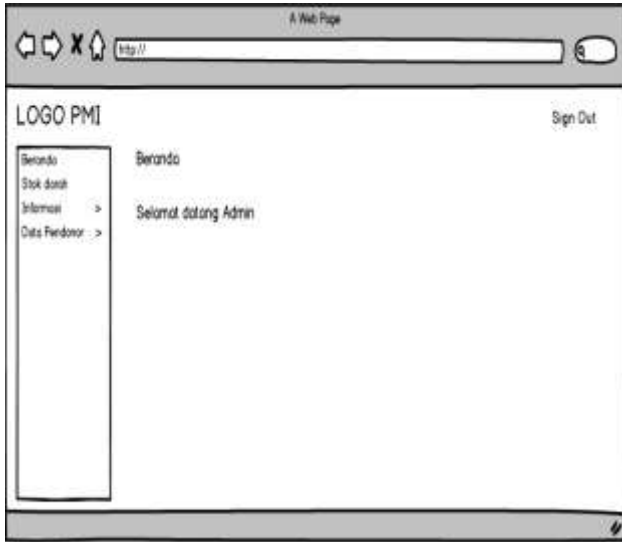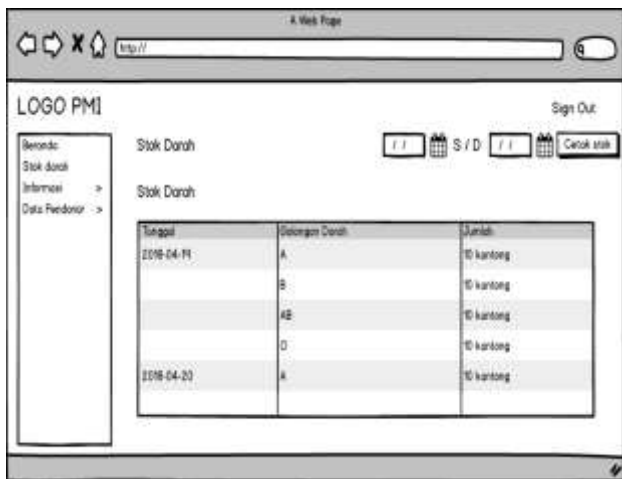
Figure 4 Design Admin Page

Figure 5 Design Blood Stock Page
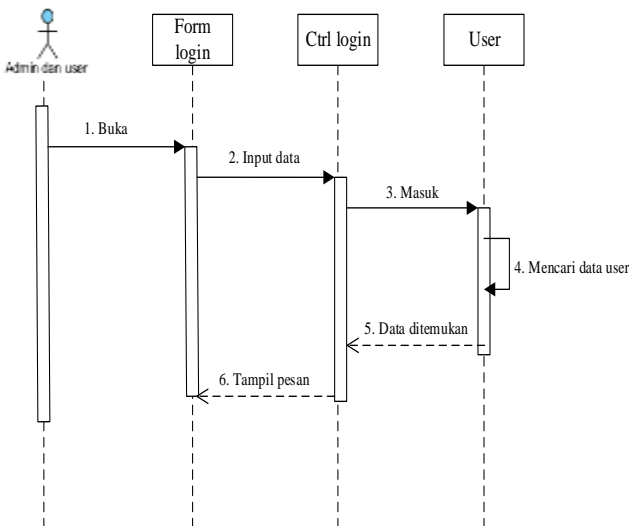
E. Sequence Diagram

Figure 6 *Sequence Diagram*

V. CONCLUSIONS

The conclusion is as follows:

1. The website can manage blood stock data making it easier to control the supply of blood bags

2. The website can help donors to get information about donating blood

3. The website can help donors register as a donor event

4. The website can help donors to register online

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