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Web-Based Information System of Baby Data Management of Integrated Service Post (Posyandu)

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Abstract: Integrated Service Post or Pos Pelayanan Terpadu (Posyandu), as a community service facility, requires a computerized support facility. It can help manage baby data and help parents monitor their baby's growth. This research uses a descriptive method. While the method of data collection uses observation and interviews for primary data and collection of documents needed for secondary data. The development method used is prototype. The results of this research is a website that can be used as supporting facilities in managing baby data and helping parents monitor baby's growth. The system created displays a chart of baby's weight and height. Suggestions that can be given are the need for additional systems for managing data for pregnant women and the elderly.

Index Terms: website, online, posyandu

I. INTRODUCTION

Posyandu is a public health service unit specifically for infant to toddler health. Every parent who has a baby or toddler, surely want their child grow and develop well. [1] [2]. With the current technological developments, posyandu can be utilized as a support tool to facilitate the implementation of posyandu activities. Posyandu holds monthly health services specifically for babies and toddlers. These services include weight weighing services, immunizations and babies and toddlers nutrition examination service. At present the data management in each activity at the posyandu is still not computerized. It can cause some obstacles for the Posyandu, including the risk of damage and loss of data because the data is still stored in paper or books, data search difficulties because the data is not stored neatly and the data sought must be checked individually.

On the other hand, parents cannot monitor their child growth and development because those who take their child to the posyandu are other people, such as their babysitters or grandmothers. Parents cannot monitor their child's growth directly. [3]

The difference between this research and the research conducted by Julia Kamsinah [4] is in terms of the application made. In this study the applications made for Posyandu Delima can be accessed by the Posyandu cadre only and do not display a baby growth chart, such

Revised Manuscript Received on December 22, 2018.

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as a graph of infant weight growth. Whereas in this research the researchers created an online application that can be accessed by parents of babies, posyandu cadres, village parties and puskesmas. This is done so that the parents of babies who are unable to attend the posyandu activities or when the book recording the baby's development data is lost, the parents do not need to worry because they can still access their baby's development data on this online application. This application also facilitates the delivery of reports from the posyandu to village leaders and puskesmas.

Similar to other studies, carried out by Musliani, Lidya Wati, and Sri Mawarni [5], namely the resulting application can only be accessed by the Posyandu cadres but it is also intended for data management of pregnant women. While in this study, besides the application that was made was an online application that could be accessed by several parties involved, in this study the application made was only intended specifically for the management of baby data.

The purpose of this study are to analyze the baby data management system that runs in the posyandu, namely to find out the problems that occur in the system that are currently running. The second is to design a baby data management information system that can be used to help facilitate data search, reduce the risk of loss and damage to data, assist in making reports and help parents monitor baby's growth and development. Third, to implement the design results into a programming language that will later produce applications that are expected to become supporters in all posyandu activities. The fourth, to test the suitability of the application, is it in accordance with the design made and can assist in the management of data at the Posyandu.

II. LITERATURE REVIEW

A. Application

Application is a type of software that functions to perform a specific task based on user needs by using a computer as a supporting tool. [6] [7]

B. Information Systems

Information system is a stage for presenting information in various ways so that information can be useful for recipients [8]. It can be said that information systems

are a way to produce useful information in making a decision.

C. Posyandu

Posyandu is a form of Community Based Health Unit that functions as an organizer of health development and provides convenience for the community in obtaining health services. The main activity at the Posyandu is monitoring baby's growth. [1]

D. PHP

PHP or Hypertext Preprocessor is a programming language used in the development or development of a website. Using PHP allows maintenance of a web to be done easily. PHP can retrieve data from forms, make pages dynamic, and accept cookies. This database can be used with PHP including MySQL, SQLite, ODBC, Oracle, Unix DBM, PostgreeSQL, Hyper wave and others. [9]

E. MySQL

MySQL is a system software used to manage SQL databases or often called the Database Management System (DBMS). Some of the advantages of MySQL include free download by anyone, flexible with various programming and ease in database management. [10]

III. METHODS

The research method is the steps taken to obtain data and to collect information that can later be used for a scientific study. The research method used is descriptive method. As well as the method of data collection used, namely using the method of observation and conducting interviews with several related parties and obtaining data from several documents used by the posyandu. The structured approach method in this study is used to approach the system. And using a prototype development method for development in building systems that exist in this study. The prototype has three stages in solving the problem including listening to consumers, then designing and making and conducting trials of the system [11].

IV. DISCUSSION

A. Proposed System Design

System design is a new system development that is carried out to overcome the problems of the existing system [12–15]. From this study the differences with the previous system are found in the data management process, with a computerized data management process. And the addition of several features that can be used to help convey or provide information about baby's growth to the parents of the baby. Figure 1 shows the DFD of the proposed system:
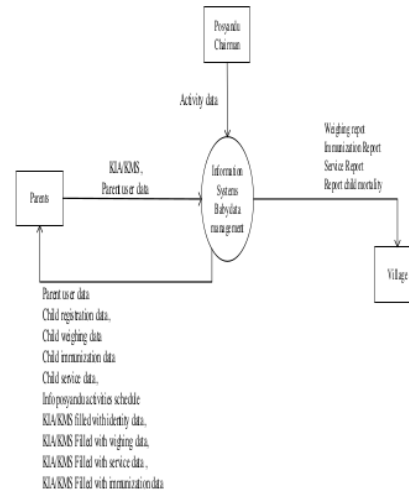

Figure 1. *Context Diagram* **Proposed Baby Data Management Information System**

V. IMPLEMENTATION

A. Software Implementation

In the construction of a baby data management information system at the Posyandu, researchers used several supporting applications including Sublime Text 3 text editor, XAMPP v3.2.2, Google Chrome Version 67.0.3396.87 and using the Windows 10 operating system. The software used by the Posyandu included Systems Minimum operation using Windows XP, minimal browser Internet Explorer.

B. Hardware Implementation

Some hardware that can be used to operate applications are using a minimum of Intel core 2 duo processors, at least 1 GB of RAM used, 70GB or more hard drive, HUB, UTP cable and RJ-45 connector, mouse, keyboard, monitor and printer.

C. Interface Implementation

An implementation of the interface of a baby data management information system at the posyandu is given below:
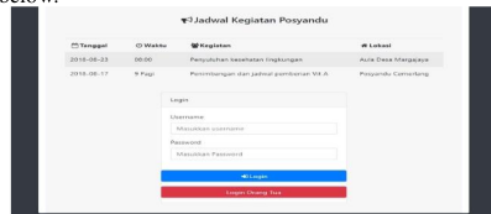

Figure 2. Login Interface

Figure 2 shows that to log in, the Posyandu Cadre will enter a username and password that was created

previously. If the login is successful, the posyandu cadre

will enter the home page or main page of the system.

Figure 3. *Interface* Posyandu Activities Form

The activity menu is a menu used by posyandu cadres to enter data on posyandu activities that will be displayed on the login page.

Figure 4. *Interface* Baby Registration Form

When the child is weighing for the first time, the child's identity will be entered into the registration form.

Figure 5. *Interface* Weighing Form

After the child registers, the posyandu cadre will weigh the child and the weighing results are inputted into the weighing form. Posyandu cadres will explain the weighing data according to the child's weighing status.

Figure 6. *Interface* Baby weighing chart

Parents can see the development of the child's weight. To be able to see the weighing graph, parents must enter the weighing graph sub menu then enter the weighing year to be seen and choose their child's name then by clicking the submit chart button will appear.

Figure 7. *Interface* Baby Immunization Form

The immunization menu contains data on children who have been immunized at the posyandu.

Figure 8. *Interface* Baby Service Form

The child service menu contains data on children who have done services at the posyandu

Figure 9. *Interface* Form of baby death

If there is a child die in the working area of the Posyandu, the Posyandu cadre will input it to the child death form.

Figure 10. *Interface* Add user data form

This user-added menu is used to create new users for the village or posyandu cadres.
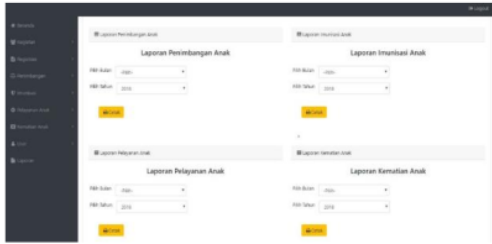
Figure 11. *Interface* Report Form

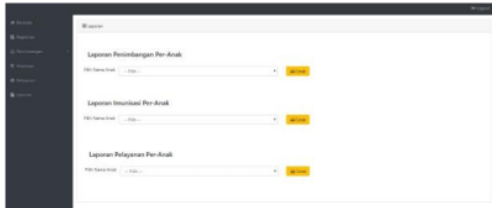Figure 11 shows menu for report printing.

Figure 12. *Interface* Per-baby Report Form

This report menu is used if parents want to print their child's weighing, immunization, or child care data. Parents just have to choose their child's name and click print.

VI. CONCLUSION AND SUGGESTION

The conclusion of this research is that the new baby data management information system can reduce the risk of data being damaged or lost due to the existence of databases, facilitate the search for data for reporting, help parents monitor the development of their babies and anticipate data on the development of missing or damaged babies.For the next research, researchers can provide more features such as adding features for managing maternal data, data for the elderly, adding a system for calculating immunization vaccine stocks and infant nutrition screening services.

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