Mobile Web-Based Information System for Participants "Program Keluarga Harapan" (PKH) in Sikapat Village, Sumbang, Banyumas Regency

Ari Purnomo[1], Feri Wibowo [2]

[1,2]Infomatics Engineering, Universitas Muhammadiyah Purwokerto, Purwokerto, Indonesia
[2]Jl. KH. Ahmad Dahlan, PO BOX 202 Purwokerto 53182

[2]e-mail: feriwibowo@ump.ac.id

Abstract

The Family Hope Program (PKH) is one of the government's efforts to accelerate poverty reduction. This social protection program is known internationally as Conditional Cash Transfers (CCT). The problem found in Sikapat Village, Sumbang, Banyumas Regency is regarding the process of managing PKH participant data which uses the old system, where all requirements for getting assistance must be submitted directly to such assistants and administrators so that these requirements can be lost, resulting in many errors. Managing data for PKH program participants is repetitive and takes a long time, and data storage does not use a database. So we need an information system that is expected to help the PKH participant data management process quickly so that it is hoped that it can replace the old method with a new way, namely a computerized system based on Realtime Database (firebase) using the Javascript programming language (ReactJS) that can run on mobiles and websites.

Keywords : Information System, Data Management, Family Hope Program, Mobile web

Introduction

Poverty is one of the fundamental problems that are the center of attention of the Government of Indonesia. One of the government's programs to improve welfare and reduce poverty is the Family Hope Program (PKH). According to the Ministry of Social Affairs of the Republic of Indonesia in 2020, PKH is a program that provides conditional social assistance to poor and vulnerable families registered in the Social Welfare Integrated Data (DTKS) and designated as Beneficiary Families (KPM) [1]. PKH is one of the government's efforts to accelerate poverty reduction. This social protection program is known internationally as Conditional Cash Transfers (CCT). Since its launch in 2007, PKH has contributed to reducing poverty and encouraging the independence of social assistance recipients, hereinafter referred to as KPM. Several indicators must be met by prospective PKH recipients to receive assistance.

The existence of PKH aims to improve the welfare of socio-economic conditions and improve health status and increase the education level of Very Poor Families (KSM). PKH is expected not only to reduce poverty and increase human resources, especially in the KSM group, but also to break the poverty chain. The process of receiving assistance often occurs when there is an error in filling in the recipient's data, so there is a lot of data that is not appropriate. People in collecting files often lose participants' files because they are often moved around. So it is necessary to implement a better computerized system in Sikapat Village, Sumbang Sub-district, Banyumas Regency in managing data for the poor for receiving assistance funds for the PKH which is expected to further support the activities of staff and employees in processing data on the PKH participants. By using the beneficiary data management system, it is hoped that there will be no accumulation of data queues when updating data, and it is easy for the village government to see information about the recipients of the PKH for Sikapat Village, Sumbang Sub-district, Banyumas Regency. Based on the identification of the problem from the background, it can be formulated a problem that will be discussed, namely what information system is needed in PKH data management in Sikapat Village, Sumbang Sub-district, Banyumas Regency.

Research on the design of a web-based information system for channeling student assistance funds (BOS). This system assists school operators or administration and school principals in recording all expenditures that

use school operational assistance funds, there is no need for interim reports and re-recording and through this system the principal can evaluate whether spending on school operational assistance funds has been fulfilled or not fulfilled in accordance with the government's stipulation on the technical manual for school operational assistance [2]. Single Page Application Development Research on Academic Information Systems, this research can develop academic information system applications with the application of Progressive Web Application (PWA) technology to manage module components so that they can better implement the download function. If there is a loss of network connection, the data is stored on the client, and the data synchronization will occur automatically [3].

Methodology

This study discusses the steps for developing an information system for managing PKH participant data in Sikapat Village, Sumbang Sub-district, Banyumas Regency. This development is needed to prepare for this research work. System development using the System Development Life Cycle (SDLC) method with the Waterfall approach. The method with the system development life cycle is the process of making the system as well as the models and methodologies used for developing the system. The Waterfall model is a waterfall model that analyzes the existing system. The Waterfall model provides a step-by-step approach to a system that is carried out sequentially, starting from the analysis, design, coding, and testing.

The analysis phase is the requirements-gathering process intensified and focused specifically on the software. To understand the nature of the program to be built, the software (analyst) must understand the information domain for the software, as well as the functionality, behavior, performance, and required interfaces [4]. Requirements for systems and software are documented and reviewed with the customer. These requirements will be defined as functions that must be owned by the system. In the analysis stage, interviews were carried out to find out the needs needed in designing and developing an information system by applying business rules and business requirements. Software design is actually a multistep process that focuses on four program attributes: data structure, software architecture, interface representation, and procedural details. The design process translates requirements into a representation of the software that can be assessed for quality before coding begins. Like requirements, designs are documented and become part of the software configuration. The design phase is carried out using the Unified Modeling Language (UML) for the development of an information or functional system of a system and database design using a normalization approach. Designs must be translated into machine-readable form. The code generation step performs this task. If the design is done in detail, code generation can be done mechanically. The process of converting a design into source code using a programming language. The system was built using a web programming language. The programming languages used are HTML, CSS, PHP, JavaScipt, and MySQL. Figure 1 shows the PKH information system use case diagram.
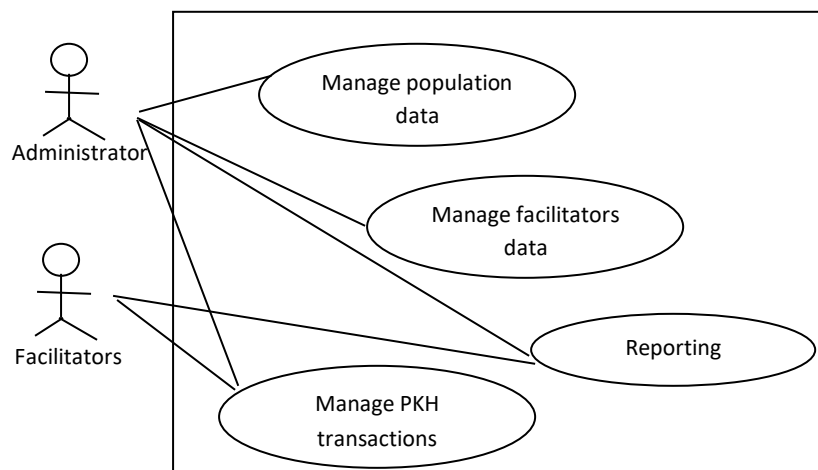

Figure 1: PKH Use Case Diagrams

After the code is generated, program testing begins. The testing process focuses on the logical internals of the software, ensuring that all statements have been tested, and on the functional externals conducting tests to

uncover errors and ensure that the specified input will produce actual results that match the required results. Stages of testing using User Aceptance Test (UAT) testing.

Result

The research results are explained starting from the analysis stage. This analysis phase produces a collection of procedures starting from the procedure for managing data on PKH beneficiary residents, namely data collection on residents in the Sikapat Village can be through PKH assistants in each RW or can be assisted through village officials with a file of identity cards or family cards and ensure that residents have been recorded in the Welfare Integrated Data (DTKS) and designated as Beneficiary Families (KPM) by PKH administrators in Sumbang Sub-district. The next procedure that can be obtained from the analysis stage is the PKH facilitator's data management process. This process is determined by the village and approved by the Sumbang sub-district PKH administrator. The assistant is responsible for the data of the residents assisted, according to the area of each RW. The registration process for PKH companions on the system is carried out by the admin, in this case, the local village apparatus. The results of the next analysis are the procedure for channeling PKH aid funds to the Sikapat Village, starting from the village. In this case, the village head must know that there will be a distribution of PKH aid funds, then the PKH facilitator, as the person in charge of distributing the aid funds, must distribute the aid according to PKH participant data. The process in the companion system must fill in the funds that have been channeled to the beneficiary after the recipient has signed a receipt. The next process is reporting to the Family Hope Program (PKH). This report was made by the village and then submitted to PKH administrators in Sumbang Sub-District, Banyumas Regency. The process in the reporting system can be made according to the period of distribution of PKH aid funds.

The results of the user interface design begin with the login page. The login form displays an e-mail and password filling form to choose an administrator, and a facilitator uses their respective e-mail and password. The login display functions as security for the system from things that are harmful and harmful to data. Figure 2 shows the login page design.
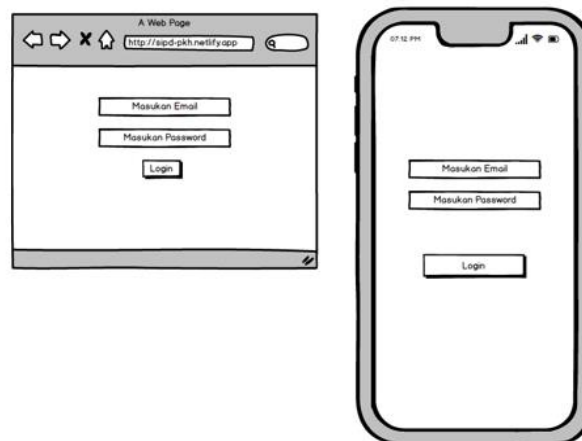

Figure 2: Login Page Design

The main menu will display the menu forms available on this information system according to the login admin or facilitator interface design can be seen in Figure 3.

Figure 3: The main menu interface design

The transaction form is a form that will display transaction data for aid funds that have been distributed. The admin and facilitator can view these transactions. Interface design can be seen in Figure 4.
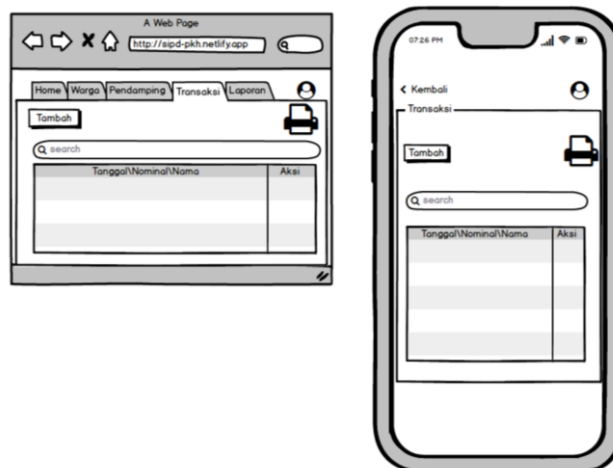

Figure 4: The transaction form design

In this stage, the results of the coding will be explained based on the design that has been made. The following is the result of the coding performed on each form. The results of the coding performed on the main menu form can be seen in Figure 5. The form interface menus contained in the application with separate access rights as admin and facilitators, so the menu displayed differs between admin and facilitators.
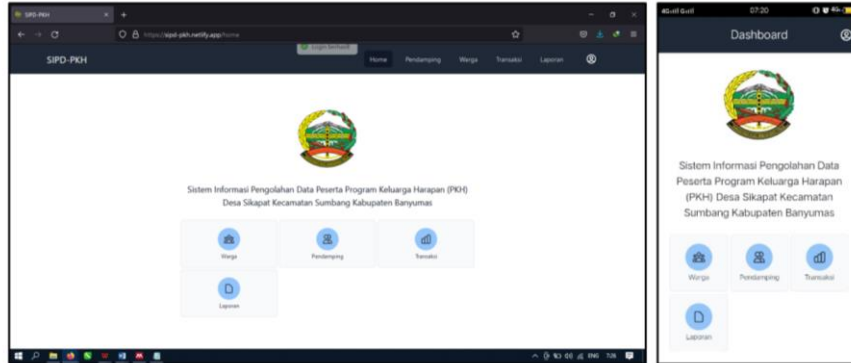
Figure 5: The main menu form

The results of the coding performed on the transaction form can be seen in Figure 6. The transaction form displays transaction data or the distribution of PKH assistance to residents and several functions for data collection on the distribution of aid funds.
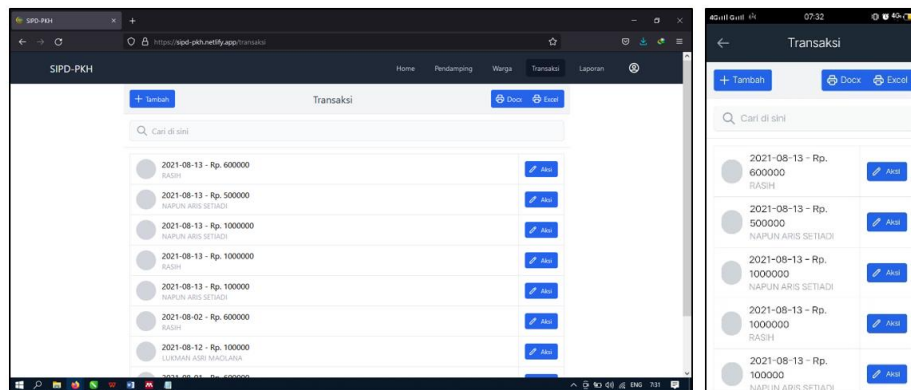

Figure 6: The transaction menu form

Testing is carried out using UAT to assess that the system that has been built meets the needs of system users. So that the system being tested can be accepted by the user to be implemented if these needs are met, but if the system built cannot meet the existing needs formulated then the system is rejected and needs to be repaired again. Testing is carried out using UAT to assess that the system that has been built meets the needs of system users. So that the system being tested can be accepted by the user to be implemented if these needs are met, but if the system built cannot meet the existing needs formulated, then the system is rejected and needs to be repaired again. This system obtained a value of 91.2%, included in the strongly agree category, based on the interval (distance) for the results obtained so that it can be concluded that this information system can be accepted and applied for the data collection on PKH assistance receipts. The final results of respondent testing obtained by the PKH participant data management information system can be seen in Table 1.

Table 1: The final results of respondent testing

aspects	Index	category
1	92 %	Strongly agree
2	84 %	Strongly agree
3	92 %	Strongly agree
4	96 %	Strongly agree
5	92 %	Strongly agree
Average	91,2 %	Strongly agree

Conclusion

The PKH assistance data management information system can run on desktop and mobile (android) web platforms by carrying out its functions properly. Then using the UAT test, this system obtained a value of 91.2%, included in the strongly agree category, based on the interval (distance) for the results obtained so that it can be concluded that this information system can be accepted and applied to data collection on PKH assistance receipts.

Refrence

[1]   Kementrian Sosial Republik Indonesia. Pedoman Pelaksanaan PKH Tahun 2020 (p. 50). KEMENSOS. 2020

[2]   Albar, F. M. Rancang Bangun Sistem Informasi Penyalur Dana Bantuan Siswa (BOS) Berbasis Web. 2017. 3(2), 228–244.

[3]   Belluano, L., & Lestari, P. Pengembangan Single Page Application Pada Sistem Informasi Akademik. ILKOM Jurnal Ilmiah, 2018. 10(1), 38–43. https://doi.org/10.33096/ilkom.v10i1.204.38-43.

[4]   Pressman, R. S. Book review: Software Engineering: a Practitioner's Approach. In Software Engineering Journal. 2015. (Vol. 10, Issue 6). https://doi.org/10.1049/sej.1995.0031