The New Design of Zakat Information System Based on Social Environment Approach

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Abstract—Data Integration Information Management System BAZNAs (Simba) with application of zakat-based Android smartphone designed by the authors for their problems regarding the data mustahiq difficult to be recorded and stored even according to the results of a questionnaire distributed by the authors to prove that every home environment of the Rukun Warga (RW) less knowing the data mustahiq entitled to receive a donation of zakat. This application allows muzaki in mustahiq search with search features mustahiq address on the application. The research method uses interview, observation and study of the literature, the use of Waterfall application development methods. The result in the form of zakat-based application system android smartphone with the data that has been integrated with the application of Simba at BAZNAs. Therefore, the author makes a system on android smartphone application created aims to facilitate the user to know the data mustahiq (those entitled to receive zakat) in various areas. As well as to facilitate the muzaki (people who distribute the funds) channeling funds using applications created by the author. The data contained in the application android smartphone certainly has been validated and integrated with Simba by BAZNAs application. Android smartphone-based applications using MySQL database and PHP programming language JAVA.

Keywords—Zakat; social environment; Zakat Information System Mustahiq, Muzaki

I. INTRODUCTION

Indonesia is a country with the largest population in the world number 4, under the state of China, India and the United States with a population of 255,461,700. Of the total population, the Muslim population amounted to 205 million, or approximately 88.1% of the total population [1]. Making Indonesia the country with the largest Muslim population, with the above state of Pakistan and India. Of the total population, based on data from the Central Statistics Agency (BPS) in May 2016, there were approximately 27.76 million or approximately 10.7% of the population identified as poor [2]. To help the poor become even better, in Islam there is an obligation for Muslims who can afford to pay zakat, infaq and zols. Surah At-Tawbah, 60. To facilitate the collection and distribution of zakat, alms infaq and zols, the state set up a body of national zakat abbreviated to BAZNAs [3]. In addition to government agencies established collectors, there are also bodies established zakat and coordinated by the foundation, for example Wafisid Da'ah, Rumah Yatim and so on.

In practice, there are several problems associated with the collection, validation and distribution of zakat [4]. From the observations we’ve done, there are at least three problems. The first related to the distribution of zakat which is still under expectations, both related to the integration of data between zakat, and the latter related to the search process the data recipients are very dependent on the data from the local social services.

Distribution of zakat by BAZIS Jakarta is still below expectations. One problem is poor record keeping. Director of the Center for Strategic Studies (Puska) Irfan Baznas Suryaki Belik said, among Baznas provinces in Indonesia, data from BAZNAs Information Management System (Simba), then the zakat collection Baznis Jakarta in 2015 amounted to Rp 192.06 billion and 2016 amounted to Rp 130.98 billion. However, there is a problem in low distribution. "Distribution in 2015 amounted to Rp 12.79 billion and per-August 2016 amounted to Rp 33.11 billion," said Irfan. While muzaki number recorded in 2015, as many as 13,531 people and per August 2016 as many as 11,558 people. Mustahik recorded in 2015, as many as 1,611 people and by August 2016 as many as 286 people. The ratio of allocation to the accumulation per August 2016 amounted to 25.28% or below expectations or is in the second lowest category before ineffective [5].

Therefore in this study, we propose a new approach linked with the existing zakat distribution system. In this approach we tried to propose the involvement of the public directly to distribute alms to use a mobile-based system. In this system we also propose a repair system for the prospective recipient’s recommendations involving the social environment where potential recipients are located. People who are in social environments can propose candidates receiving donations, more and more people are proposing, then that potential recipients will be more likely to be used as recipients of zakat institution.

For the process of integration between amil zakat institutions, the design that we propose involves a proxy database that can be accessed jointly by all institutions of zakat, and the data can also be used by the system based on mobile applications by prospective charity. In this case we designed several web services that can be used to process the data transaction. This paper is organized as follows: the next section presents related work. Section 3 discuss about the existing zakat system, propose design system will be talk in Section 4. Section 5 conclude this paper with a summary and future work.
II. RELATED WORK

In the journal created by Asep Irham Guffron et al 2014 explains that the amount of funds raised at charity institutions are not comparable with the distribution of zakat which is still plagued by a lack of data provided by the different mustahiq UPZ to BAZNAS. Therefore, researchers set up a web-based application for the purpose of collecting data mustahiq with the integration of data from various UPZ from the local mosque so that the incoming data about mustahiq that need can be easily accessed by the user or the BAZNAS.

Research made by Edi Herdiamsyah et al 2013 explained that the data inputting system mustahiq and muzaki currently still based manually and susceptible to loss of data due to not yet have a database for storing data and muzaki mustahiq. Therefore, the authors designed a Web-based application system for data entry and muzaki mustahiq easily and have a database that is organized so that the required data more easily inputted. In this study penulis only make the application form input muzaki mustahiq and web-based design UML diagram of DFD and usecase diagram.

Research made by Rifl Atunmisia et al in 2014 makes computing applications zakat mal and zakat android-based profession. Application only to facilitate the user in the calculation of zakat profession. This application uses the method prototype and design using UML diagrams such as usecase diagrams, activity diagrams and sequence diagrams.

Of various studies, above, the writer concludes that any development of applications that have been made have not fully meet the needs of BAZNAS because the system developed was based website and every user who wants to access it cannot be viewed in detail the data of donations and not easily search the data mustahiq with the closest distance scale of the area muzaki. Therefore, the author tries to make an application to enhance the existing system with the concept of direct muzaki candidate may distribute zakat to mustahiq by searching the address mustahiq.

From interviews compiled by Mr. Achmad Setia, chairman of IT BAZNAS (2016), SIMBA application is now in the implementation phase and can be accessed by all Amil Zakat Regions and the other Institutions. Simba application can also integrate all Amil Zakat Agency Regional spread across 34 provinces in Indonesia, as well as to display the data collection and distribution of funds in real time for all of Amil Zakat listed on the application SIMBA. But other problems arise when the data collection and distribution of funds is still relatively global and are not reported in detail. For detailed data on the distribution of BAZNAS only limited reporting monthly journal which can be accessed at Simba application. Therefore, the muzaki not be able to know more clearly and transparently to whom the funds have been disbursed.

According to the current of each institution has to have a data base. For example BAZNAS which has a data base SIMBA (BAZNAS Information Management System) as a channel of information collection and distribution of zakat throughout Indonesia. In determining mustahiq and target areas, BAZNAS holding two government agencies, namely TNP2K and BKKBN. TNP2K formulate data from Bappenas, BKKBN and other data collection agencies. From these two institutions, BAZNAS have the data of the poorest villages in Indonesia. In addition the data mustahiq by name by address from the six provinces that are still in the update.

For the current application systems running on the collection and distribution of zakat is still centered amil zakat institutions recorded. Centralized zakat fund raising is still only on the distribution amil zakat institutions are still considered less than the maximum.

III. SYSTEM ARCHITECTURE

3.1 System Runs

![Diagram 1: The System Runs]

3.2 The system proposed

![Diagram 2: The System Proposed]
3.3 Usecase Diagram

![Diagram](image)

**Gbmar 1.3 Usecase Diagram**

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IV. SYSTEM DESIGN

4.1 Analysis

Is a stage-setting features, constraints and objectives of the system through consultation with users of the system. All of these things will be set out in detail and serves as a system specification. There are 4 components at this stage:

a. Definition Issues

In this component, the problems faced in developing the system need to be defined, for example how to develop an application that is used to analyze and compare with the application system of zakat collection and distribution of funds previously.

b. Literature Study

Reference source is the author of books, articles, e-books and BAZNAS official website. The book is the advice of experts and professors in this study were used to study the data. Complete data from the book list can be found in the bibliography. Moreover, the authors also use google media as its internet media.

c. Analysis of Needs

At this stage, an analysis of the system of collection and distribution of funds already running on BAZNAS through interviews to the chairman of the IT BAZNAS. In a study of data collection required methods or techniques specific data collection, so that the process can study berjalan smoothly. The author did a few steps of data collection such as:

a. Interview

At this stage, the authors conducted interviews with the head of IT of BAZNAS Jakarta on August 24, 2016 with Mr. Achmad Setyo to ask the system already running on the system BAZNAS collection and distribution of zakat funds from various institutions who have joined the SIMBA system.

b. Observation

In this method the data obtained with a few issues to review the research field in order to get the facts. Observation was held on August 4, 2016 at various charity institutions, namely the orphanage as well as direct observation areas that support the greatest charity reception.

d. Limitations

At this stage determined by the access rights of each user or system applications that will be developed. Defined user access rights based on user roles applications.

c. Analysis System

In this component of the analysis system described include weakness of the old system, so it needs to be developed and compared with the validity of the system to be developed by the researchers.

4.2 Design

At this stage it will establish a system architecture based on defined criteria. And also identify and describe the basic abstraction of the software system.
a. Flow Recommendation
The illustration below explains that the user accessing the data mustahiq application can search by address, and can be seen from the details of the application where the location mustahiq in accordance with their respective areas.

V. Conclusion
The author has developed a system of data integration with web services technology. The author also implemented using android smartphone designed so that the system can be easily accessed by all users who need applications such charity. In its development the authors use a variety of technologies, including smartphones android, java language, MySQL database, API using JSON language and android studio. The author uses the android studio with the Java programming language as a tool or the brain of the system is developed, the software is responsible for processing all the activities necessary in the manufacture of system applications. JSON is a programming language that is required in the manufacture of APIs to create an integrated system. Integrated system is a database of Simba with a database designed in mobile applications so that applications can exchange data or information quickly to build an API that can be accessed by mobile applications as well as applications Simba. And further data generated by mobile applications will be quickly and easily updated with the database that has been owned by Simba application without changing the structure of database Simba in terms of ease of application zakat address search feature on android smartphone applications make it easier for muazzaki in channeling funds directly to mustahiq because there is a search feature mustahiq address, therefore muazzaki can easily search for the data mustahiq appropriate address you want the funds channelled easier and transparent.

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