



Android based health service information system for registration of patients At gerung hospital, gerung sub-district, west lombok district

Rian Wahyul Ikhtiar¹, Mursid Raharjo², Ratih Wardani²

¹*Mahasiswa Master Student of Public Health, Faculty of Health, Diponegoro University, Semarang.*

²*Lecturer in Public Health Sciences, Faculty of Public Health, Diponegoro University, Semarang*

***Corresponding author: Riyan Wahyul Ikhtiar**
Email: h.husni.1962@gmail.com

ABSTRACT

Background

Health is one of the human rights whose fulfillment becomes government responsibility in accordance with the mandate of the law. Problems encountered hospitals today there are still many hospitals that handle too many patients, so they don't according to capacity, as a result patients are not served because the number of available health personnel is not comparable.

Objective

To determine the application of the Android-based information system design to improve outpatient services at Gerung Hospital.

Methods

The research instrument used in this study was the waterfall method, interview guidelines, observations, and test sheets for the system used in data collection within one month.

Results

The android-based outpatient registration study at the Gerung hospital was proven to improve patient care. This is evidenced by the increasing number of patients who can be treated per day.

Conclusion

The results of the proposed information system trial can overcome problems related to the quality of information from a system, namely: easy access to information, accuracy of information, timeliness, completeness of information and suitability of information.

Keywords: *Outpatient Registration, Android.*

INTRODUCTION

Health is one of the human rights whose fulfillment is the responsibility government in accordance with the mandate of the law. Health service is an effort done individually or in groups in an organization to improve and maintain public health^{1,2,2}. The hospital is one of the most important service facilities, both for individuals and for society in Indonesia³.

The problems faced by hospitals today are still many hospitals that handle them There are too many patients, so

that they are not according to capacity,, as a result patients are not served because the number of available health personnel is not comparable. In addition, BPJS services that continue to improve in hospitals⁵. Some of the previous studies conducted showed that There is a significant influence between patient satisfaction and timeliness of service in the outpatient installation of the Manado city health center. Some of the things above require support in improving the service to the community, especially on the registration care jalan unit, one form of support that role is very important is the support in the field technology^{8,1}.

In this modern era, a *smartphone* or *mobilephone* is one of the basic needs. Indonesia is one of the countries with high internet users, namely 132.7 million (51.8%) of the total 256 million, this data was obtained from the results of research conducted by APJII (Association of Indonesian Internet Service Users). This phenomenon is seen by several developed regions in Indonesia as an opportunity to improve health services to the community. Semarang as one example of a region that launched a new service innovation named PUSTAKA (Semarang City Queue Health Center) with the aim of reducing queues and accelerate service and develop the area itself.

Gerung is one of the developed areas on the island of Lombok with characteristics people who want convenience in various aspects, it is proven by the number of online service users in Gerung district. Lack of understanding of its importance following the trend and the lack of experts in developing the existing system are

obstacles faced by the West Lombok district government. This is the underlying it is important to do research on android-based registration systems in hospitals Gerung to increase regional progress.

METHODS

This method research is a system development using qualitative descriptive analysis with an observational approach. The research design used a design *cross-sectional*, by observing the application of the Android system for 1 month.

The research subjects involved management based on levels, namely: Head of Puskesmas, Registration Staff, 5-10 patients who registered via Android in a predetermined period of time. The research object is the Registration Information System at Gerung Health Center.

The research instrument used in this study was the waterfall method, interview guidelines, observations, and system test sheets used in data collection, digging up information, and identifying the needs of system users in this information system. Other instruments used are writing instruments, recorders, and laptops.

The data processing of this research was carried out in stages: Data checking (*Editing*). The researcher checked the measurement data during the research and during the research to ensure that there was no incomplete data. Giving code (*coding*) technique is done by marking each observation result in the form of a number. Classification is done by marking each observation result in the form of a number, then entering it in a table to make it easier to read. In this study, coding consists of several categories, namely the Android system is given code 1, the manual system is given code 2. Entering data (*Entering*) means that the research data from the observation sheet that has been categorized and coded into the Microsoft Excel worksheet to perform the analysis with using SPSS version 20. Tabulating is a process of reprocessing data that has been entered, to find whether there is an error or not and grouped in tabular form. The quality of the system is analyzed using qualitative descriptive analysis using pre and post test before the system exists and pre-test after the existence of a system that is calculated using a weighted average.

RESULTS

In this modern era, a *smartphone* or *mobilephone* is a necessity basic. Indonesia is one of the countries with high internet users, namely as big as 132.7 million (51.8%) of the total 256 million, this data was obtained from the results of research conducted by APJII (Indonesian Internet Service User Association). *Android* is the operating system used for Linux-based mobile devices³¹. The results of the quality of information before and after system development are analyzed with a weighted average can be seen in Table 4.14.

Table 4.14 Results of the Assessment of Information Quality Information System forbased Outpatient Registration Information *Android*-

Quality Aspects
of Average
WeightedBefore
Development
Average
WeightedAfter
Development
Difference Average

Flexibility	1.85	3.12	1.27	Accuracy	1.95	3.18	1	, 23
Convenience	1.95	3.25	1.30					
Timeliness	1.90	3.17	1.27	Average				
Overall	1.91	3.16	1.25					

Based on table 4.16 of the four aspects of information quality assessment it can be seen that after development The information system on 4 aspects as a whole has increased after the development of an-based outpatient registration information system *Android*. This can be seen by comparing the weighted average before and after the development of an-based outpatient registration information system *android*. The improvement in the quality of information on these 4 aspects is evidenced by the increase in the weighted average before and after the development of the system with a difference of 1.26 in the weighted average from the weighted average before development of 1.91 and the weighted average after development of 3.18.

This study is a research that proves an association between android and outpatient registration at Gerung hospital. Android-based registration is one of the efforts that can be made by an institution such as a hospital to reduce queuing numbers at registration counters in order to improve health services to the community. This research was conducted for one month, located in Gerung Regional Hospital, West Lombok. This research was carried out by implementing an android-based registration system by first socializing to employees and patients who were in the hospital.

The results of this study prove the hypothesis, in which-based outpatient registration *android* really helps the running of the system at Gerung hospital. This can be proven from the results of the questionnaire calculation which shows a ratio of 7, which means that the android system is very influential on hospital services to patients, especially in terms of timeliness, accuracy. The results of this study are also corroborated by several in-depth interviews that have been conducted before and after the implementation of-based registration system *Android* this.

Some people who had been interviewed said that the-based registration system *android* made it very easy to register, patients said they didn't need to come too early to register, while the hospital management said there was an increase in

patients after testing-based registration system *Android* thisand other changes were felt. in terms of reports. The monthly or annual reports in question are cleaner and easier to access.

REFERENCES

1. Adnan FN. Android-based mobile application for the Administration of Outpatient Polyclinic Examination at Salatiga City Hospital. 2009;
2. System A, Accounting I, Increase D, Hermana-lembean DIRS. INTERNAL CONTROL OF INCOME. 3 (4): 117–29.
3. Theory K. Definition of Systems Understanding Information Understanding Information Systems Understanding Management. 2010;
4. Arifin Z, Kurniadi A. INFORMATION SYSTEM FOR REGISTRATION OF PATIENTS AT PATI JUWANA PUSKESMAS, PATI DISTRICT, 2012; 147–55.
5. Oktafia H, Wijaya L, Lubuk K, Kec K, Selatan L, Lubuklinggau IK. Application of the Waterfall Method to the Mobile Web-Based Outpatient Registration Information System. 2017; 06 (September): 80–5.
6. Iribarren SJ, Brown W, Giguere R, Stone P, Schnall R, Stagers N, et al. International Journal of Medical Informatics Scoping review and evaluation of SMS / text messaging platforms for health projects or clinical interventions. *Int J Med Inform* [Internet]. 2017; 101: 28–40. Available from: <http://dx.doi.org/10.1016/j.ijmedinf.2017.01.017>
7. Kuntoro W, Istiono W. Patient Satisfaction with Service Quality at Outpatient Registration Points at Kretek Bantul Health Center, Yogyakarta. 2017; 2 (1).
8. Kusuma AH, Syafei WA, Elektro JT, Semarang UD. WEB-BASED HEALTH WITH REGISTRATION SYSTEM.
9. Youssef A, Alharthi H, Khaldi O Al, Alnaimi F, Alsubaie N, Alfariss N. Effectiveness of text message reminders on nonattendance of outpatient clinic appointments in three different specialties: A randomized controlled trial in a Saudi Hospital. *J Taibah Univ Med Sci* [Internet]. 2014; 9 (1): 23–9. Available from: <http://dx.doi.org/10.1016/j.jtumed.2013.10.001>
10. Jen W, Chao C, Hung M, Li Y, Chi YP, System I, et al. Mobile information and communication in the hospital outpatient service. 2006; 6: 565–74.
11. Joung M, Min J, Mo S, Sung J, Seok Y, Soo H, et al. Effects of a short text message reminder system on emergency department length of stay. *Int J Med Inform* [Internet]. 2019; 81 (5): 296-302. Available from: <http://dx.doi.org/10.1016/j.ijmedinf.2012.01.001>
12. Community LK, Room K, Inap R, Keep ID, Blood S, Number P, et al. DESIGN AND DEVELOPMENT OF MOBILE-BASED COMMUNITY HEALTH SERVICE INFORMATION SYSTEMS IN Dr. MOHD. HOESIN AND INDONESIAN RED CROSS. 1978; (x): 1–9.
13. Iskandar EY, Tolle H, Arwani I. Development of Operation and Visite Patient Information Systems for Medical Personnel Based on Android at XYZ Hospital. 2018; 2 (12): 6300–5.
14. Ahmadi H, Nilashi M, Shahmoradi L, Ibrahim O. Technological Forecasting & Social Change The moderating effect of hospital size on inter and intra-organizational factors of Hospital Information System adoption. *Technol Forecast Soc Chang*. 2018; (March 2017): 1–26.
15. Ammenwerth E, Buchauer A, Bludau B, Haux R. Mobile information and communication tools in the hospital. 2000; 57: 21–40.
16. Gualano MR, Siliquini R. Department of Public Health Sciences, University of Turin Corresponding Author: SC. *Int J Med Inform*. 2019;
17. Carvalho JV, Rocha Á, Wetering R Van De, Abreu A. A Maturity model for hospital information systems. *J Bus Res*. 2019; 94 (August 2017): 388–99.
18. Print I, Online I, Akbar R, Silvana M. Journal of Technology and Information Systems Development of Web-Based Outpatient Information Systems with Mobile Features at Puskesmas Tarok, Payakumbuh City. 2017; 03: 353–9.
19. Vidal J, Rocha Á, Vasconcelos J, Abreu A. International Journal of Information Management. *Int J Inf Manage*. 2018; (July): 1–8.

How to cite this article: Rian Wahyul Ikhtiar, Mursid Raharjo, Ratih Wardani. Android based health service information system for registration of patients At gerung hospital, gerung sub-district, west lombok district . *Int J of Allied Med Sci and Clin Res* 2020; 8(4): 749-751.

Source of Support: Nil. **Conflict of Interest:** None declared.