Smart Village: A Means of Empowering the Krisik Village Community through an Intelligent Information System Based on Online Administration Service Solutions

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ABSTRACT

Administration is a fundamental need of society. The implementation is still not practical and simple, resulting in a domino effect that can have an impact on other sectors such as the economy. The demographic condition of Krisik Village shows that time inefficiency will result in a lot of losses. Moreover, the absorption of existing village funds shows that the use of paper for administration is still very large which is not in accordance with the 13th point of the Sustainable Development Goals, coupled with the COVID-19 pandemic which has exacerbated the situation with the imposition of various restrictions on sectors in society. This is an urgency for a solution that facilitates the community in the administration sector and the Krisik Village needs a solution to facilitate the administrative process in terms of distribution delivery and management by the village apparatus in order to create an effective, efficient, and face-to-face minimal system. Based on the needs and conditions of Krisik Village, an online administration solution, namely "Smart Village: Empowerment of Krisik Villages in Blitar Regency through an Intelligent Information System for Application-Based Online Community Administration Services", is an application that can accommodate administrative processes at the village level using the Android system.

KEYWORDS
Administration, Android, Smart Village.

INTRODUCTION

Krisik Village, Gandusari District, Blitar Regency is a village that has high potential in developing the population administration system. Surveys of villagers show that the village administration system has not been implemented practically. As many as 80% of survey participants feel that the administrative process in the village takes a long time. The average time spent in administration in the village is 2 hours. shorter.

Krisik Village has topography and general land contours in the form of rice fields and hills so the majority of the population work as farmers as much as 74.45% and breeders as much as 12.58% (Profil Desa Krisik, 2020). Often residents are forced to put aside the needs of their fields or livestock in order to make time for administrative arrangements. It is very unfortunate if the productivity of the residents decreases because they take care of the administration. The time required for the letter submission process should be shorter.

The Krisik Village community has the right to get maximum administrative services in the bureaucratic system. Public administration services are needs that are born from the fundamental needs of society to maintain its

existence. Population Administration in the form of a series of structuring and controlling activities in the issuance of population documents and data through population registration is regulated in the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 95 of 2019 concerning Population Administration Information Systems. Uphold the collapse of a country in today's modern era will depend on the good and bad administration of the country (Sellang, 2016).

The emergence of the Covid-19 pandemic in early 2020 added a new dimension to the administrative problems of Krisik Village. With the pandemic, the government requires all aspects of community activities to be carried out online and with low mobility. From a different perspective, the emergence of the COVID-19 pandemic in early 2020 taught the community many things, one of which was the alternative of running administrative activities without meeting face to face (Eisenman, 2016).

Based on the explanation above, it is urgently needed to improve village administration services that can make it easier for residents and village officials in administrative matters. The solution to the administrative problems faced by Krisik Village is accommodated through this service program in the form of the establishment of an Application- Based Application-Based Intelligent Information System for Online Community Administration called "Smart Village". This application makes administrative activities practical and avoids face to face.

Application development uses the Android operating system because it is user friendly so it is easy for users to learn and for developers it is easier for developers to develop the system. The interface design is designed according to user convenience, such as the display of information that is easy to read, appropriate image quality, efficient, fast, and effective in carrying out a process. The programming language chosen is React Native because it is easy to use for beginners and can be used for cross platforms.

React Native is a framework that helps developers build mobile applications using JavaScript without compromising the user experience (Eisenman, 2016).

The SMART team collaborated with the Blitar Regency Communication and Information Office in developing the SMART Village application. This collaboration is intended to expand the feature scale and reach scale in the future.

The implementation of Krisik Village Empowerment through the Intelligent Information System of Application-Based Online Community Administration Services takes into account the skills of the village community in using technology and the available facilities, namely the village already has an internal automatic administrative component. Krisik Village Demographic data shows that the majority of the population is junior high school graduates. Although Krisik Village's human resources show a low level of education, the majority of the population is technologically savvy and owns a smartphone. So this program is very appropriate to be applied to the Krisik Village community.

The "Smart Village" application can be further developed for village empowerment in various sectors such as accommodating information about the tourism sector. Krisik Village can be a model village for other villages in Blitar City in terms of developing a village administration system.

MATERIALS AND METHODS

This study uses the Beneficiary Assessment method in identifying social problems that involve systematic questioning with recipients of social services to identify barriers to participation, design development initiatives, and receive inputs for updating the system and quality of services and development activities.

The activity was carried out for 4 months, starting from June 2022 to September 2022, in Krisik Village, Blitar Regency, East Java Province. Programs are implemented online and

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offline. The program preparation stage, partner discussions, application design, and the web are carried out online. Meanwhile, socialization activities, application launches, surveys of existing conditions, and collaboration with Diskominfo are carried out offline.

The procedure for implementing the program implementation is carried out in 2 stages as follows:

1. The stages of program implementation consist of 4 activities, namely:

1.1. Preparation for program implementation consisting of problem identification, literature study, discussion related to ideas, brainstorming UI/UX designs, improving UI/UX mockups on applications and websites

1.2. The design and manufacture of the Smart Village application are carried out in the form of discussions with village officials to adjust the application to the conditions of partners to suit the real situation and conditions in Krisik Village. The process of making the application according to the results of the discussion is as follows:

1. The application design process is carried out by making an application script from the results of discussions that have been carried out at the Krisik Village hall.

2. Creating UI/UX to adjust the needs of Krisik Village.

3. Implementation of UI/UX into Android and web applications.

4. Application development starts from the back end creating a data workflow that will be used by Android applications to connect existing data with Android applications.

1.3. The launch of the application was carried out in collaboration with the Communication and Information Office (Diskominfo) of Blitar Regency, with the form of cooperation provided in the form of providing domain, Firebase, and CPanel users as access for website hosting.

1.4. Socialization and program implementation were carried out to explain the series of Smart Villageprograms. The implementation of the program is in the form of using the application directly by residents and accompanied by a team of writers in socialization activities. Implementation is carried out with the aim of providing skills and knowledge related to the Smart Village application that was launched as well as collecting suggestions and input for the development and improvement of applications in the future.

2. The stages of program evaluation are carried out to determine the performance and constraints of implementing the Smart Village application using routine monitoring and questionnaires for initial and final surveys.

RESULTS AND DISCUSSIONS

The program process is carried out in several stages such as collecting information from door-to-door surveys to find out existing conditions and getting administrative problems in partners such as (a) The length of time required to queue for administration, (b) Lack of utilization of the database owned by the Village Office so that the speed of service has not been maximized, (c) The paths that residents must take to reach the Village Office are complicated and complex due to the hilly topography of Krisik Village. (d) Administration system which is still done manually. Based on the problems above, a solution is made to be able to facilitate the administrative process in terms of delivery of distribution and management by village officials in order to create an effective, efficient, and minimal face-to-face system.

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The implementation of the Smart Village application for the residents of Krisik Village is carried out as a form of empowering skills and knowledge related to the application. It is hoped that residents can use the Smart Village application in the future as a medium to take care of administrative needs, namely submitting letters. This implementation was carried out during the socialization activity on July 26, 2022, at the Krisik Village Hall. The socialization materials delivered were in the form of an introduction to the general description of the application, the stages of downloading and installing the application, how to register an account and set up a profile, an explanation of application features, and the flow of submitting letters. This socialization was attended by 20 members of the village apparatus including Pak Hari Budi Setyawan as the head of Krisik Village. After the socialization and implementation activities were carried out, the Smart team distributed the final survey as a form of evaluation

Figure 1. Implementation of Program Introduction

Figure 2. People Participate in Socialization

Evaluation of Program Implementation Success

Evaluation is carried out in the form of improving application development based on suggestions and input from the village. Implementation of the identification of community satisfaction with the application that has been launched using a questionnaire and detailed results of the questionnaire.

The following are the results obtained in the form of before and after the Smart Village application was launched in terms of 4 aspects:

1. Aspect of Administration Management Time

Table 1. Comparison of AdministrationManagement Time

Before The Smart Village Program	After The Smart Village Program
Regarding the speed of administrative services in Krisik Village, 66.7% of respondents felt that it was **fast but could still be improved**, 21.3% of respondents felt it was **slow**, 11.5% of respondents felt very fast, and the remaining 0.5% felt **very slow**.	A total of 67.2% of respondents felt **very helpful** with the Smart Village application in administrative management and another 32.8% felt it **helped**. There was an increase in the satisfaction of residents with village administration services.

2. Aspects of Speed of Administration Services

Table 2. Comparison of Administration Services

Before The Smart Village Program	After The Smart Village Program
44.3% of respondents took an average of **10-20 minutes** to queue when the registration process took care of administration, 34.4% waited **less than 10 minutes** and 21.3% waited **more than 20 minutes.**	A total of 63.9% of respondents needed only **5-10 minutes** to fill out one form, 19.7% of them filled out one form in **less than 5 minutes** and the remaining 16.4% took **more than 10 minutes**. There is an increase in the speed of administrative processing time.

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3. Aspect of Ease and Efficiency of Administration Management

Table 3. Comparison of Ease and Efficiency of Administration Management

Before The Smart Village Program	After The Smart Village Program
In terms of administrative management procedures, 1.6% of respondents found it **very difficult**, 16.4% of respondents felt that the procedure was **difficult**, 21.3% of respondents felt it was **normal**, 32.8% of respondents found it **easy** and 27.9% of respondents felt that the service procedure was **very easy**.	By using the Smart Village application, as many as 63.9% of respondents felt that administrative management was **very efficient** and the remaining 36.1% felt that it was **efficient**. There has been an increase in the ease of administrative management into a more efficient system.

4. Aspect of Administrative Management Media

Table 4. Comparison of Administrative Management Media

Before The Smart Village Program	After The Smart Village Program
The media used by respondents in terms of administrative arrangements as much as 80.3% were handled **manually**, 18% manage **combined (digital and manual),** and 1.7% other managed **digitally**.	Respondents who have used the Smart Village application all agreed to use **digital media** in the administrative process. There has been a gradual change in the administrative management process using digital media.

CONCLUSIONS AND SUGGESTION

Community service is carried out in the form of a socialization program and the implementation of the Smart Village application. The results obtained are in the form of improving the quality of Krisik Village administrative services both in terms of time and effectiveness. The sustainability of this program is expected to help Krisik Village residents improve digital literacy and expand the reach and functionality of applications that start from a village scale to develop into a city scale which can be achieved with the cooperation of the relevant agencies, namely the Blitar Regency Government, the Blitar Regency Communication and Information Office, and Directorate General of Population and Civil Registration of Blitar Regency.

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