

**DESIGN AND CONSTRUCTION OF THE GAMPONG LAMSUJEN INFORMATION SYSTEM USING LARAVEL FRAMEWORK
(Case Study: Gampong Lamsujen)**

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Abstract

Gampong or Village is part of the Regency government area under the Sub-district which is led by the Village Head. Gampong Lamsujen is located in Lhoong Sub-district and in Aceh Besar Regency is a village that has great potential, including in the fields of plantations and agriculture, not only that, Gampong Lamsujen also has various tourist attractions that can attract tourists to visit, but this information is only known by the surrounding community. With the advancement of technology in the current era, in making it easier to get information about Gampong Lamsujen, it can be made into an information system/website so that outsiders can easily find out information about Gampong Lamsujen. This information system was created using the R&D method to ensure that the system built meets the needs and standards that have been set. The Laravel Framework was chosen as the main design tool because of its ability to accelerate the development process and provide an organized structure in designing the system. Based on the results of the admin/village apparatus and user trials, this product has been proven to be suitable and meets the needs. Thus, this website is used as a source of information for Gampong Lamsujen and the outside community who want to know information about Gampong Lamsujen.

Keywords: Village, website, Laravel, R&D

INTRODUCTION

Current technological developments have developed very rapidly and brought about very big changes because with this technology information can be obtained quickly, accurately and is not limited by time and place. One of the sectors that is growing in technological development is in the field of websites which contribute to distributing more interactive information about tourist attractions, especially through internet technology.

Gampong Lamsujen is located in Lhoong District and in Aceh Besar Regency, it is a village that has great potential, including in the fields of plantations and agriculture. Not only that, Gampong Lamsujen also has various tourist attractions that can attract tourists to visit, the tourism potential that can be developed in Gampong Lamsujen is that there is a durian garden which can be visited directly by tourists when the durian season is underway and the natural river water flow is so clear and cool, this will make Lamsujen village better known among the wider community, but currently, the people of Gampong Lamsujen are promoting the village to the outside community. In conveying information, we still use verbal communication which is passed by word of mouth to people who have

visited there, so conveying information to people outside the village takes a relatively long time. Sihombing, E. N. (2021)

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METHODS

Types and Research Approaches

The design of this research uses the R&D method. Research and Development (R&D) is a systematic approach used by organizations or institutions to conduct research and development of new products, technologies or processes. The main goal of the R&D method is to increase knowledge, innovation, and efficiency in order to create better products or services, as well as to advance scientific and technological progress. R&D methods involve a series of steps, such as problem formulation, data collection, analysis, experimentation, and evaluation, which are used to achieve established research and development goals.

Research Subjects and Data Sources

Population

The population in this study was Gampong Lamsujen, Lhoong District, Aceh Besar Regency.

Sample

A sample is a small portion of a population or data set taken or selected to represent the general characteristics of the population. Samples are used in statistics to perform analysis, research, or testing, because it is often not possible or practical to collect data from an entire population. By analyzing a representative sample, we can make estimates or conclusions about the population as a whole Salangka, E. (2019). The sample in this research was Lamsujen village.

Data Collection Techniques

Observation

Conduct direct observations in the village to observe the situation and objects of Lamsujen gampong. This can help you understand better in designing the Lamsujen village information system using a framework that can be uploaded on the website Sundoro, B. T. (2022).

Interview

This method is a way of collecting data through direct personal contact between the data collector and the data source called the respondent, by asking several questions and answers directly. Rukajat, A. (2018).

Documentation

Study Documentation data collection carried out is related to the required research data sources. In research, data sources involve three factors: namely the research setting, the people involved, and everything that is produced through the involvement of those people (Nyoman Kutha, 2016: 234).

Collecting documentation is necessary with the aim of obtaining file evidence in the form of data or photos that are related to research in the design of the Lamsujen village information system as material for the design that will be put forward Absor, U. (2018).

Data Analysis Techniques

The data analysis technique in this research uses descriptive-qualitative analysis methods. The descriptive method is the interpretation of data carried out by reasoning, while the qualitative method is analyzing design elements, namely text, letters, illustrations and colors in relation to the principles of good design, namely unity, balance and harmony.

After the required data has been collected, the data will be analyzed based on descriptive and qualitative methods. Next, based on the results of the data analysis that has been completed, a village information system design is created that is in accordance with the predetermined criteria. Martono, N. (2019).

Research Design

This system design stage is used to design an information system in detail based on the results of website analysis, thereby producing an information system model. At this design stage, a general overview of the use of the village information system is presented.

a. Research Tools and Materials

Table 1. Tools and Materials

No	Device	Tools and materials
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- 1. Hardware
 - Model System: ASUS A456U
 - Processor : Intel Core i5-7200U
 - RAM : 4 Gb
 - Hardisk : 1 Tb
 - Operating system: Windows 10
 - Web Browser : Google Chrome
 - Web Server : Apache
 - 2. Software
 - Sistem DBMS : MySQL
 - Desain : Draw Io
 - Editor : Visual Studio Kode, Sublime
 - Programming language: PHP, HTML, JAVA Script
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b. Use Case Diagram

Use Case Diagram describes the interaction between actors in the information system in Gampong Lamsujen. Use Case Diagram is presented in the image below.

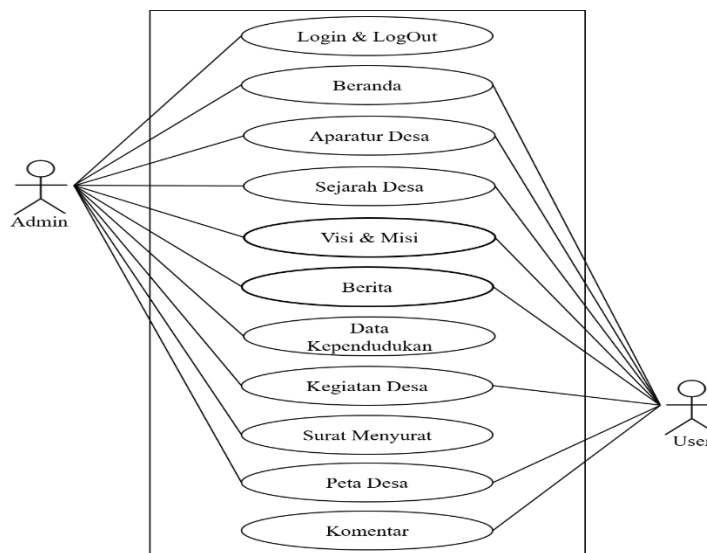


Figure 1. Use Case Diagram

c. Activity Diagrams

An activity diagram is a visual representation of the workflow or sequence of activities involved. These diagrams are very similar to flowcharts in that they allow modeling logical or business processes. The main difference between activity diagrams and flow charts is that flow charts are used to describe the work flow of a system in general, while activity diagrams focus more on describing activities and interactions between actors in a particular process.

RESULTS AND DISCUSSION

In designing the Lamsujen village information system using the Laravel framework using the R&D method, the steps taken at the initial stage were to create a use case diagram as the flow of the website. This use case diagram is used to describe the steps and sequence that will be presented on the website. After the use case diagram is complete, an activity diagram is created for the website workflow. This activity diagram provides an initial overview of how the Lamsujen village information system that will be used works.



Figure 1 Admin Login Page Display

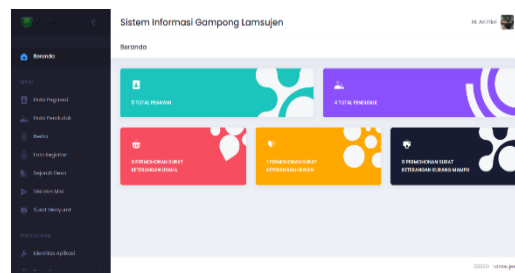


Figure 2 Views of the Admin Home Page

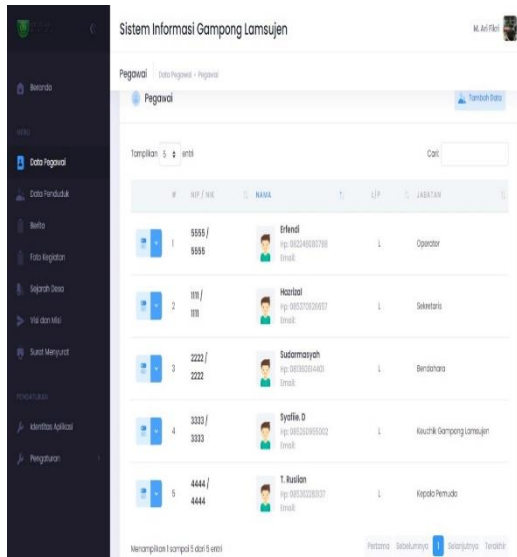


Figure 3. Village Apparatus Data Menu Display

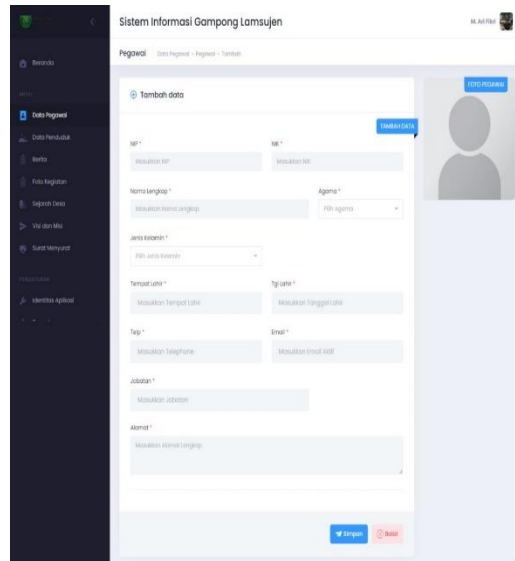


Figure 4. Menu Display for Adding Village Apparatus Data

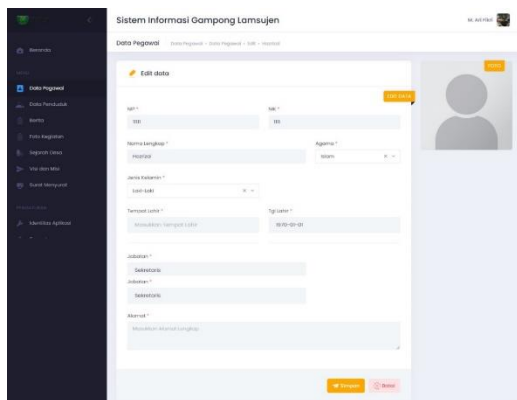


Figure 5. Village Apparatus Data Edit Menu Display

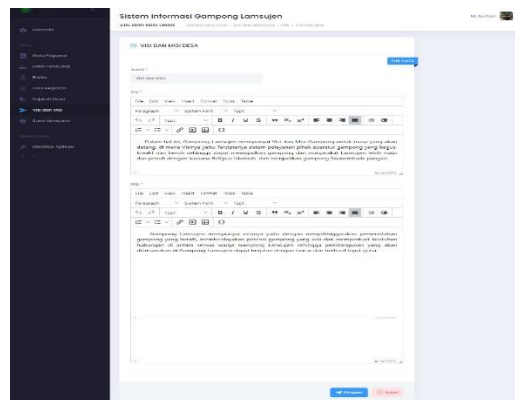


Figure 6. Vision & Mission Menu Display

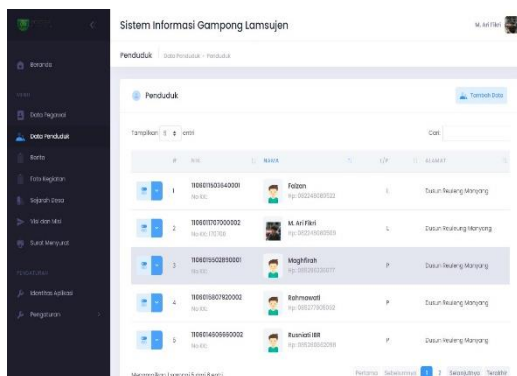


Figure 7. Population Data Menu Display

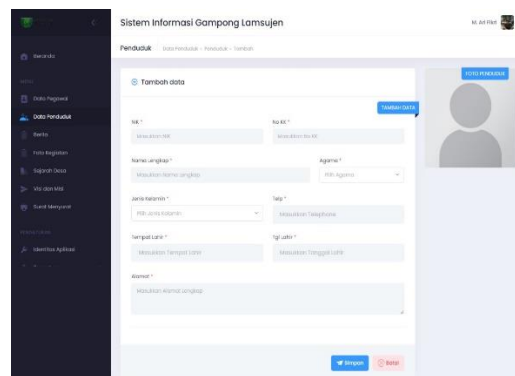


Figure 8. Menu display for adding population data

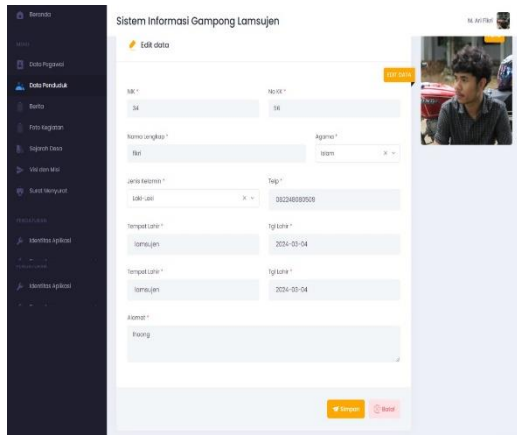


Figure 9. Population Data Edit Menu Display

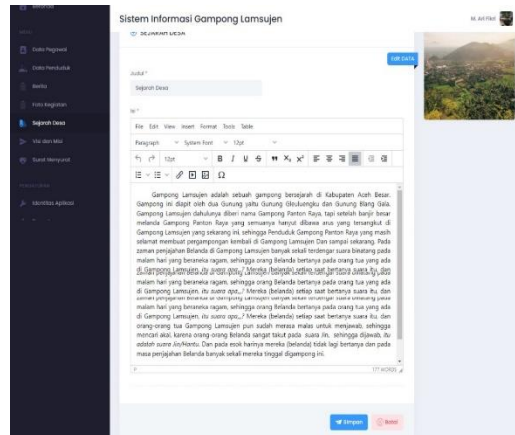


Figure 10. Village History Menu Displays

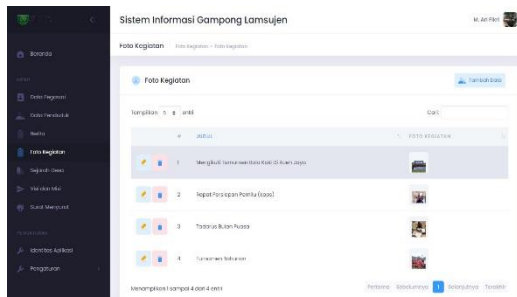


Figure 11. Village Activities Menu Display

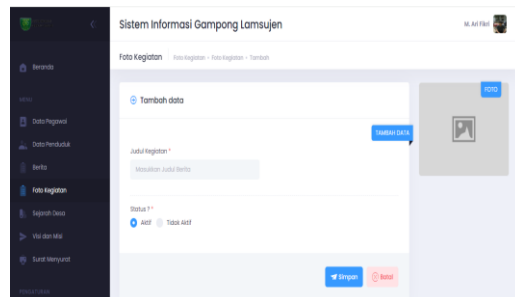


Figure 12. Menu display for adding village activities

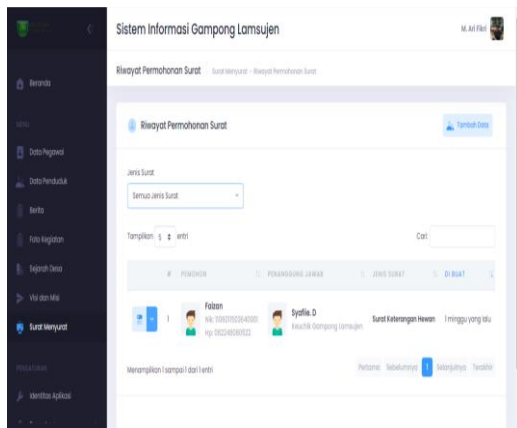


Figure 13. Correspondence Menu Display

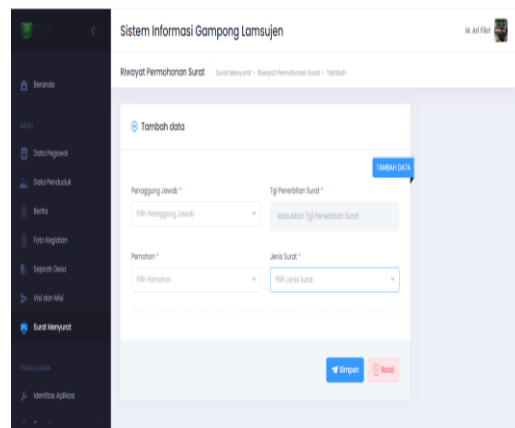


Figure 14. Add Letter Applicant Menu Display

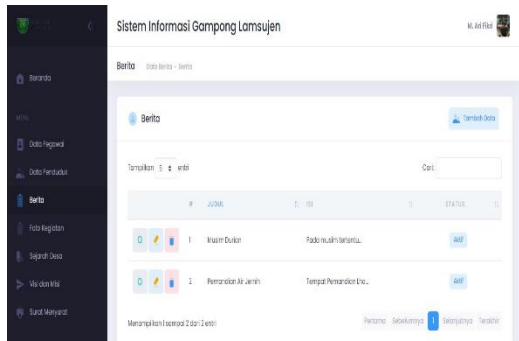


Figure 15 News Menu Display

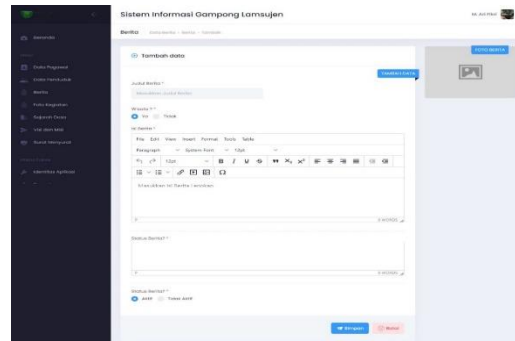


Figure 16. Add News Menu Display

a. Desain Hasil Produk User

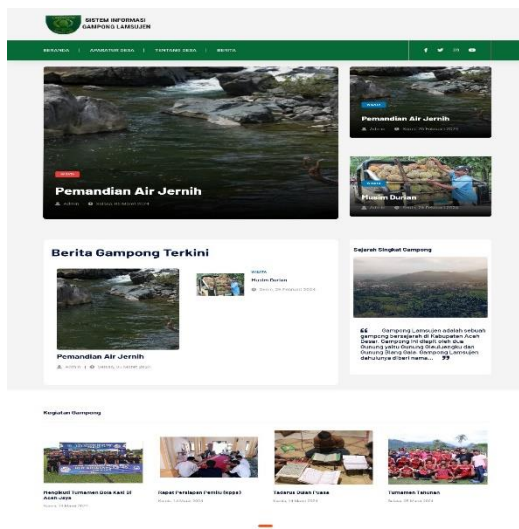


Figure 17. User Home Page Display

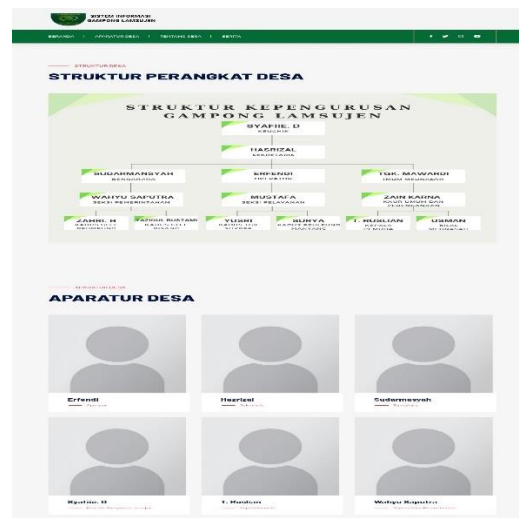


Figure 18. Village Apparatus Page View



Figure 19. Village History Page View

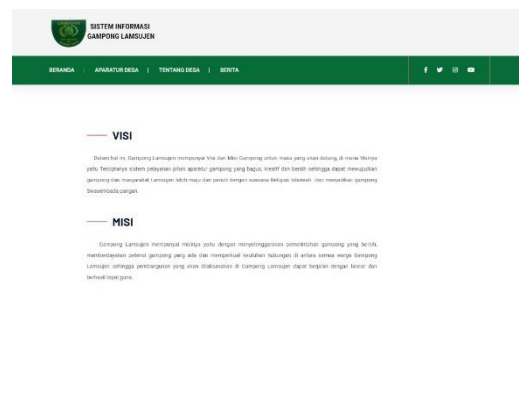


Figure 20. Vision & Mission Page View

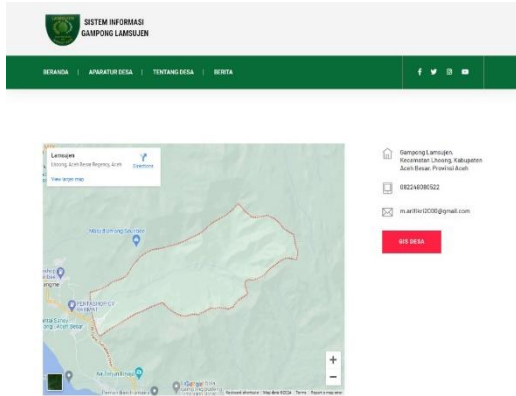


Figure 21. Village Map Page View

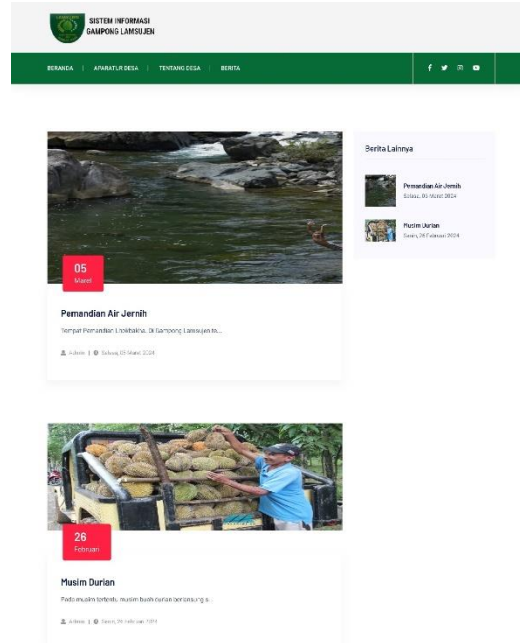


Figure 22. News Page Views

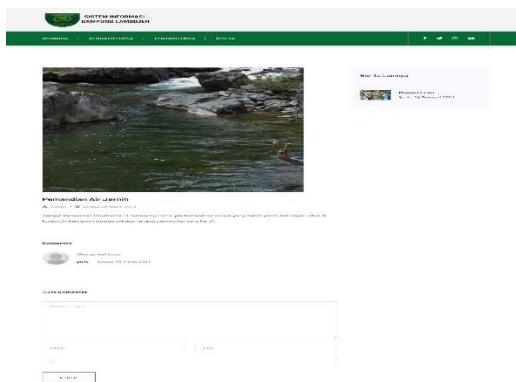


Figure 23. Detailed View of the News Page

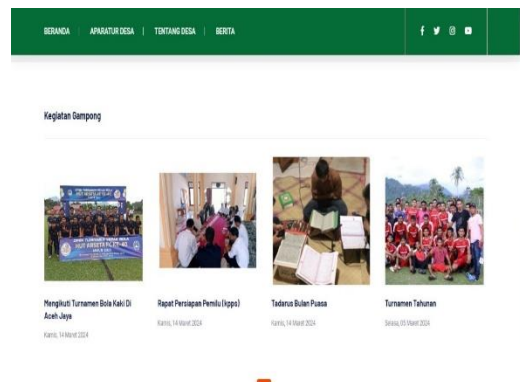


Figure 3.24. Village Activities Page View

Next, all use case diagram and activity diagram designs are moved into Visual Studio Code. In Visual Studio Code, use case diagrams and activity diagrams can be displayed with the help of programming or coding languages according to the flow that has been adjusted to the use case diagram and activity diagram. After the implementation is complete, it is handed over to the Lamsujen village apparatus, they will evaluate and provide feedback on the product. If there are findings or suggestions from the Lamsujen gampong apparatus, revisions will be made to the Lamsujen gampong information system product. This revision aims to improve the quality and feasibility of the information system. After

revision. After the revision, it will be published to the Lamsujen gampong community or the outside community as the Lamsujen gampong information system. Therefore, both the Lamsujen gampong community itself and the outside community who want to know information about Lamsujen gampong can look at the website-based Lamsujen gampong information system.

CONCLUSION

Based on the discussion of the design of the Gampong Lamsujen information system using the Laravel Framework, the following conclusions can be drawn:

The Gampong Lamsujen information system was developed using the R&D stage method. Then, in determining the needs analysis for this system, the Unified Modeling Language (UML) model is used, namely Use Case Diagrams and Activity Diagrams. And developed with the Lramework Laravel programming language and several other languages, and uses a MySQL data base to store data. Implementation of the Lamsujen Gampong Information System using the Laravel Framework can be useful for the Lamsujen Gampong community and in providing the latest information for the Lamsujen Gampong community and website visitors.

The feasibility of the Gampong Lamsujen information system has been tested by admin/village officials and users, the product has been proven to be suitable and meets needs. And this website will be provided and used by Gampong Lamsujen and anyone who needs information about Gampong Lamsujen in the form of a website. Thus, this website will be used as a source of information about Gampong Lamsujen as well as for the outside community who want to know about information about Gampong Lamsujen.

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