
GEOGRAPHIC INFORMATION SYSTEMS FOR THE DISTRIBUTION OF COMMUNITY SERVICE ACTIVITIES IN KUANTAN SINGINGI DISTRICT

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Abstract

Article Info

Received 28 November 2021

Revised : 08 December 2021

Accepted 17 December 2021

Villages where community service has been carried out so far the data will be stored in the LPPMDI archive file in the form of a work report, which annually will be given to LPMP for making lecturer performance reports, but LPPM itself does not yet have historical data on Community Service in the form of maps, so that villages that have been carried out activities or that have never been visited, cannot be presented in a visual form that can be accessed by many people, only limited to report data, besides that the problems that exist in each village in Kuantan Singingi Regency will be different, so a system is needed to describe and select potential and appropriate locations to serve as locations for community service and display the results of this service, villages where community service has been carried out have been mapped and seen the results of the community program the team appointed to implement it in the form of ideas the implementation team, the types of activities carried out, the targets to be achieved by the team in the service program, the results produced after the service, and activity documentation, all of this is entered into a system that can be seen in the form of maps, with the aim of being accessible to general users such as the public. or related institutions.

Keywords: Community Service, WebGIS, Apps

1. Introduction

The implementation of the Community Service program is carried out once a year for funding made by the university, apart from that, the lecturer team can also apply to carry out independent service that is carried out independently or external funding by submitting proposals such as the implementation of UNIKS grants, for community service activities. This community service has been carried out by every study program starting from UNIKS which was established and spread in various locations, especially villages in Kab. Kuantan Singingi, for LPPMDI itself, does not have historical data on Community Service in the form of maps, so that villages that have been carried out activities or have never been visited cannot be presented in a visual form that can be accessed by many people, only limited to report data, other than those problems that exist in each village in Kuantan Singingi Regency will be different, so a system is needed to choose potential and feasible location to be used as a community service location and display the results of this service.

Researchers will create a system for mapping areas/villages where community service programs have been carried out with the hope that villages where community service has been implemented, have been mapped and seen the results of the community program, the team appointed to carry it out in the form of the identity of the implementation team, the types of activities carried out carried out, the targets to be achieved by the team in the service program, the results produced after the service, as well as documentation of activities, all of this is included in the map, with the aim of being accessible to general users such as the community or related institutions, in journals written by novia and Endang (2020) regarding the creation of a research and community service website, in this research it has not yet completed information with maps, a journal written by Hamzah (2016) about making research information systems and community service, in this study it is explained that the system uses n desktop application, not yet online using the website. In this study, researchers built a mapping-based system that will function for community service activities, which are considered to be the latest breakthroughs with hopes and benefits that will be felt by users such as the community or related institutions..

2.1 Research Framework

This research framework serves as a guide in completing research on the Mapping of Community Service Locations in the Kuantan Singingi Regency so that this research runs according to the proposed design flow. The research framework proposed by the author in this study is as follows :

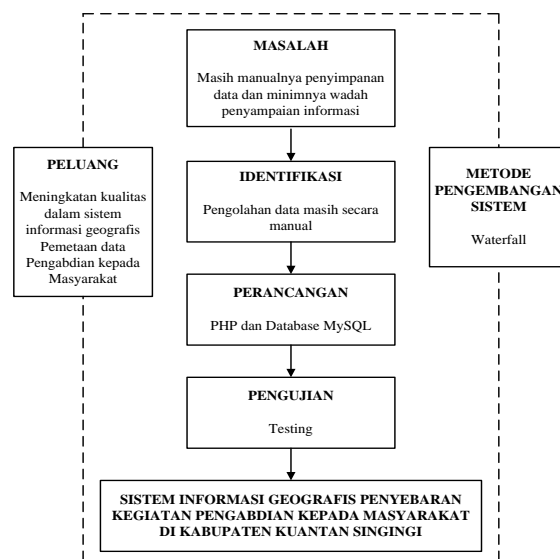


Figure 1. Research Framework

2.2. System requirements

A. Hardware

Minimum hardware requirements in WebGis data processing:

1. Processor Intel inside Core i3
2. Memory 4 GB
3. Hardisk 500 GB
4. Printer Canon Mp 230
5. Mouse

6. Keyboard

B. Software

In making the system, supporting software is needed that can help achieve research:

1. Operating System Windows 10
2. Quantum GIS
3. Photoshop Cs3
4. Microsof visio
5. XAMPP
6. Google MAP API

3. Results and Discussion

3.1 Community Service Data

Based on the Chancellor's decree in 2021 regarding the determination of the community service team in the UNIKS environment, it can be seen in the table below along with the title and location of the research implementation :

Table 1. List of Community Service 2021

No.	Team name	Devotion title	Devotion Location
1	Agrotechnology Department	Maintenance of oil palm (elaeisguineensisjaeq) in Siberobah Village, Gunung Toar District	Siberobah Village, Gunung Toar District
2	Agribusiness Department	the use of local wisdom "rubber seeds" as a snack economic value	Banjar Benai Village, Benai District
3	Animal Husbandry Department	community empowerment in fattening beef cattle in the village of Padang Island	Pulau Padang Village, Singingi District
4	Civil Engineering Department	development of irrigation for rice fields in the village of Banjar Benai	Banjar Benai Village, Benai District
5	Informatics Engineering Department	development of the ability to use information technology in the marketing of kube products Kaliki batik	Siberobah Village, Gunung Toar District.
6	Urban & Regional Planning Department	tourism planning in the village Pulau Padang, Singing District, Kuantan Regency singingi	Pulau Padang Village, Singingi District
7	Islamic Education Department	fostering religious skills regarding procedures for administering corpses	Siberobah Village, Gunung Toar District
8	Chemistry Education Department	manufacture of organic fertilizers to improve agricultural products	Banjar Benai Village, Benai District
9	State Administration Department	empowerment of village officials in managing the village government system in Pulau Padang Village, Singing District, Kuantan Singing	Pulau Padang Village, Singingi District

		District	
10	Law Department	making village regulations related to village fees in Siberobah Village, Gunung Toar District, Kuantan Regency Singingi	Siberobah Village, Gunung Toar District
11	Accountancy Department	management skills training in order to improve the management performance of village-owned enterprises (bumdes) in Pulau Padang Village, Singing District, Kuantan Singing District	Pulau Padang Village, Singingi District
12	Islamic Banking Department	Sharia-based BUMDes empowerment in BUMDES 9 steps, Banjar Benai village, Benai sub-district, Kuantan district singingi	Banjar Benai Village, Benai District

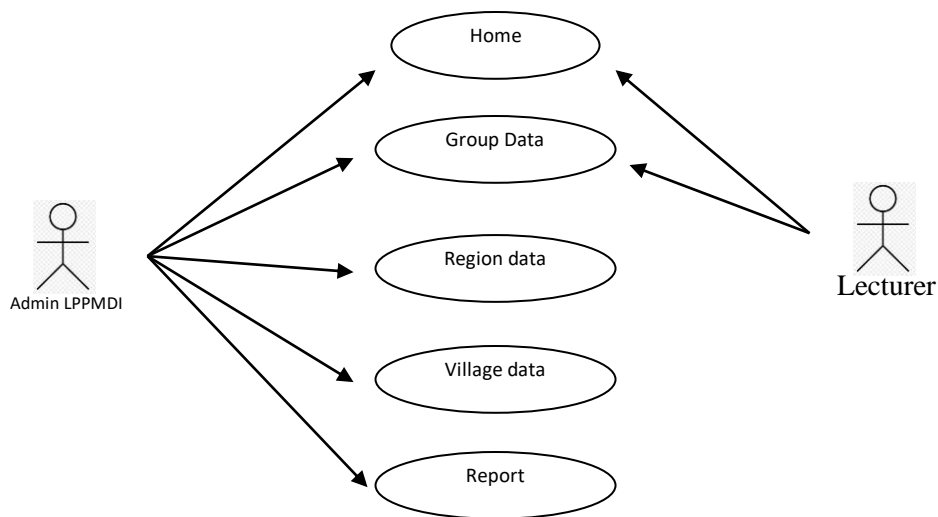


Figure 2. usecase PkM

In the use case diagram above, it can be seen the working relationship between the LPPMDI admin and lecturers, where each actor can manage the existing data on the system, such as group data accessed by the lecturer, where the lecturer can enter data into the system, then the LPPMDI admin can do anything into the system. such as entering data, changing data, and even deleting data in the system.

This data is a list of Community Service locations that have been submitted to the LPPMDI, Kuantan Singingi Islamic University, then the data will be entered into the system and marked based on the location of the service into a digital map that has been provided in the system.

Figure 3. Group and location data input page

On this page, the service team fills in the required data into the system, after that selects the coordinate facilities to mark the location of the service, then selects the location of the service as shown below :

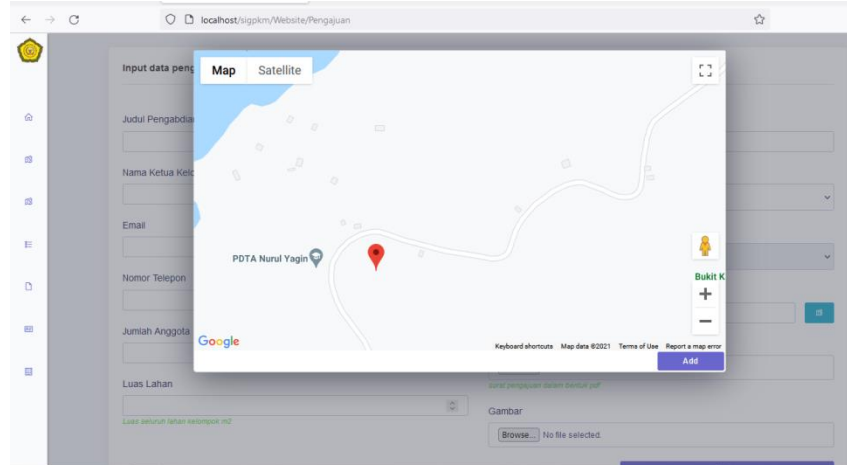


Figure 4. Choose a dedication location

To display map data as above, an internet connection is required in calling Google API map data with instructions as shown below:

Table 2. map script

```
<script
src="https://maps.googleapis.com/maps/api/js?key=AIzaSyD_tAQD36v4at5AvBUslCOS
Jx8&callback=initAutocomplete&libraries=places&v=weekly" async></script>
<script src="<? = base_url('assets/json/dataMap.js') ?>"></script>
<script
src="https://cdnjs.cloudflare.com/ajax/libs/axios/0.21.2/axios.min.js"
```

```
integrity="sha512-
SRGf0XYPMWGCYQg7sQsW2/FMwq0L/mYhwxDrAoU0eZ9sW02/+R48bcXZaW0pwjCQbyRWP24zsbtq
QxJXU1W2w==" crossorigin="anonymous" referrerpolicy="no-referrer"></script>
<script>
```

The command above serves to call the map on the google maps page to be used in this service mapping system.

After entering all the service data, we can see the areas marked in the PkM activity in the system:

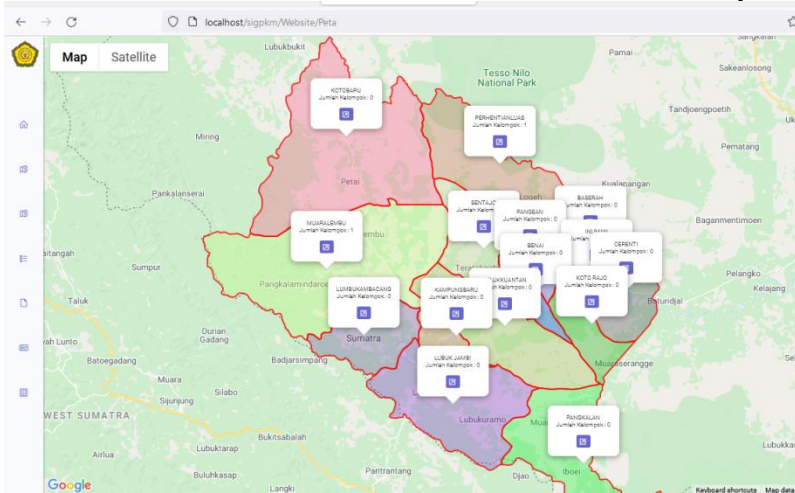


Figure 5. Service location map

The location of the service that has been entered into the digital map, a list will appear like the table below:

Table 3. Service data after being entered into the map in the coordinates

No.	Team name	Devotion title	Devotion Location	Team name
1	Agrotechnology Department	Maintenance of oil palm (elaeisguineensisjaeq) in Siberobah Village, Gunung Toar District	Siberobah Village, Gunung Toar District	-0.6224391, 101.5408312
2	Agribusiness Department	the use of local wisdom "rubber seeds" as a snack economic value	Banjar Benai Village, Benai District	-0.5412039, 101.6177939
3	Animal Husbandry Department	community empowerment in fattening beef cattle in the village of Padang Island	Pulau Padang Village, Singingi District	-0.4203471, 101.0536702
4	Civil Engineering Department	development of irrigation for rice fields in the village of Banjar Benai	Banjar Benai Village, Benai District	-0.5412039, 101.6177939
5	Informatics	development of the ability to use	Siberobah Village,	-0.6224391,

	Engineering Department	information technology in the marketing of kube products Kaliki batik	Gunung Toar District.	101.5408312
6	Urban & Regional Planning Department	tourism planning in the village Pulau Padang, Singing District, Kuantan Regency singingi	Pulau Padang Village, Singingi District	-0.4203471, 101.0536702
7	Islamic Education Department	fostering religious skills regarding procedures for administering corpses	Siberobah Village, Gunung Toar District	-0.6224391, 101.5408312
8	Chemistry Education Department	manufacture of organic fertilizers to improve agricultural products	Banjar Benai Village, Benai District	-0.5412039, 101.6177939
9	State Administration Department	empowerment of village officials in managing the village government system in Pulau Padang Village, Singing District, Kuantan Singing District	Pulau Padang Village, Singingi District	-0.4203471, 101.0536702
10	Law Department	making village regulations related to village fees in Siberobah Village, Gunung Toar District, Kuantan Regency Singingi	Siberobah Village, Gunung Toar District	-0.6224391, 101.5408312
11	Accountancy Department	management skills training in order to improve the management performance of village-owned enterprises (bumdes) in Pulau Padang Village, Singing District, Kuantan Singing District	Pulau Padang Village, Singingi District	-0.4203471, 101.0536702
12	Islamic Banking Department	Sharia-based BUMDes empowerment in BUMDES 9 steps, Banjar Benai village, Benai sub-district, Kuantan district singingi	Banjar Benai Village, Benai District	-0.5412039, 101.6177939

4. Conclusions

The results presented in this study are based on the results of the geographic information system for the distribution of Community Service activities in Kuantan Singingi Regency where with this computerized system, LPPMDI can provide good information about the distribution of community service activity data, and with this computerized system, it will provide convenience to the preparation of community service data in the Kuantan Singingi Regency area. This computerized system provides information to the public in the Kuantan Singingi Regency area about Community Service activities carried out by the Kuantan Singingi Islamic University.

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