

Android-Based Geographic Information System Tourism of Samarinda City

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ABSTRACT

This research is motivated by the tourism potential of Samarinda which is actually very good, but this potential has not been fully utilized by the city government and the private sector. So that people are less interested in traveling in Samarinda. Therefore, the purpose of this research is to build an android-based regional tourism information system for Samarinda City as a source of information to find out what tourist objects are owned by Samarinda City. This study uses spatial data in the form of location coordinates, addresses and non-spatial data as well as supporting information in the form of tourist names, categories, types of tours, addresses. Making this Android-Based Samarinda City Tourism Geographic Information System using Google Maps as a base map. The results of this study are to simplify data management for the general public, the test results of 60% of respondents answered agree, 34% of people answered strongly agree, 4% of people answered less agree, 2% of people answered disagree, 0% of people answered strongly disagree, and the results of the validation test using Pearson's product moment correlation model using SPSS with the number of rcount>rtable all valid data.

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1. INTRODUCTION

Samarinda is a city with an area of 718 km² and a population of more than 900,000 people (Data from the Department of Population and Civil Registry, December 2012) and is the capital city of the province of East Kalimantan. In recent years, Samarinda has become a destination for tourists and business people. Business people generally plan to start a new business in Samarinda City. Coal and wood are the main business commodities in this city. In addition to business interests, many visitors also travel in Samarinda. Samarinda's tourism potential is actually very good, but this potential has not been fully utilized by the city government and the private sector. So that

people are less interested in traveling in Samarinda. In addition, the most basic problem of Samarinda tourism is actually publication, generally people do not know what tourism in Samarinda is. The above problems can be solved by the existence of a Tourism Information System, the community (in this case tourists) can find out what tourist attractions are in Samarinda, know where the tourist attractions are. (Gozali Andriyanto). motivated by the lack of socialization of tourist attractions in the city of Samarinda, so that tourists can find recreational and culinary attractions around the city. Therefore, the purpose of this application is to create a tourism geographic information system in Samarinda City, so that it can be easily accessed by tourists and the public. In addition to providing

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information and tourist locations in Samarinda City, the system built aims to introduce tourists to recreational and culinary tourism in Samarinda City and make it easier for tourists to find recreational and culinary attractions in Samarinda City itself. The results of this study are expected to show that this application can be used in such a way to find out the location of existing tourist attractions

2. METHOD

2.1. Place and Time of Research

Dahlia No.69, Bugis, Samarinda City Subdistrict, Samarinda City, East Kalimantan Province 75242. Planned time This research will be carried out for 2 months starting from March 2021 to April 2021.

2.2. Tools and Materials

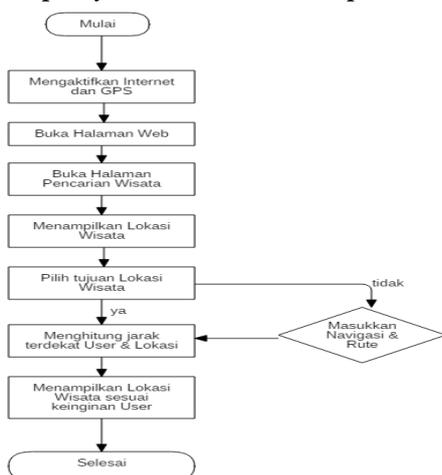
Making this information system using a laptop unit with hardware and software specifications used in making this system are as follows:

- 1) Hardware:
 - a) Laptop ASUS Intel(R)Core(TM) i5-7200 CPU @2.50GHz 2.71GHz
 - b) Handphone SAMSUNG A50
- 2) Software:
 - a) Android Studio
 - b) GPS Essentials
 - c) Star UML
 - d) Microsoft Word 2016
 - e) Google Maps

2.3. System Design

1. Flowchart System

A system flow chart is a chart that shows the workflow or what is being done in the system as a whole and describes the sequence of procedures that exist in the system. In other words, this flowchart is a graphic depiction of the sequence of combined procedures that make up a system. Can be seen in picture 1.

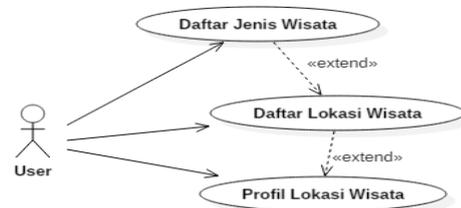


Picture 1. Flowchart System

In this case the system requires internet and GPS, if the Internet and GPS are active, the user will proceed to the next stage, while if the user has not activated GPS and the Internet, they must be activated first. In this system, users can immediately see a map of the distribution of tourist locations and continue to search for the desired tourist location. If the user has input the desired location, the system will start looking for tourist locations and the route to be taken. Users can use it, if they still want to find the desired tourist location again, the user can return to the start menu or search for tourist locations. System flowchart.

2. Use Case

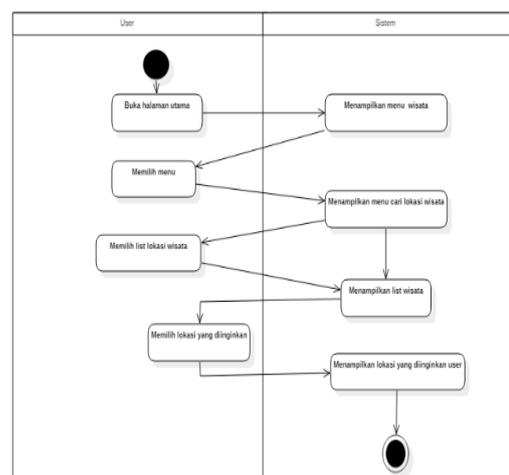
Use Case diagrams are a sequence of interrelated interactions between systems and actors. Use cases are executed by describing the type of interaction between the program user (system) and the system itself. Use cases through stories where the system is used. Use cases are also used to shape the behavior of the system to be created. A use case describes the interaction between the user (actor) and the existing system. Can be seen in picture 2.



Picture 2. Use Case

3. Activity Diagram

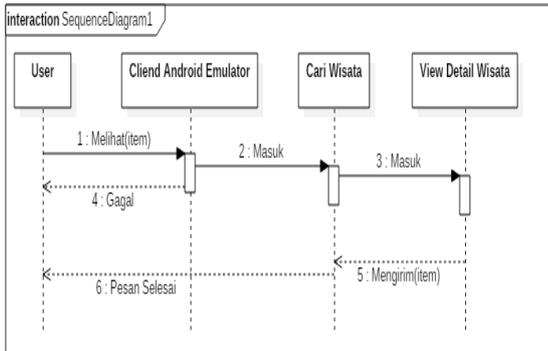
According to the book Rosa et al. Yunita (2020) entitled "Information System Design and Implementation" stated that the Activity diagram is an explanation of the workflow of a system that is in the software and is not a description of the behavior of actors. Can be seen in picture 3.



Picture 3. Activity Diagram

4. Sequence Diagram

At this design stage, a sequence diagram is used to explain the current system, namely inputting tourism data which is then stored in a database that will provide information and provide this information to users. Can be seen in picture 4.



Picture 4. Sequence Diagram

3. RESULT AND DISCUSSION

3.1. Result

The following is a display of the results of making the Samarinda City Tourism Geographic Information System Android. This application was made aiming to find out tourist locations in the city of Samarinda.

1. Display Android GIS Tourism Samarinda

a. Main Page

When the system is accessed or run by the user, the main page appears consisting of 6 menus, namely: Religious Tourism, Culinary Tourism, Artificial Tourism, Shopping Tour, Nature Tourism and Profile. Travelers choose what they want. Can be seen in picture 5.



Picture 5. Main menu display

b. Profile Menu

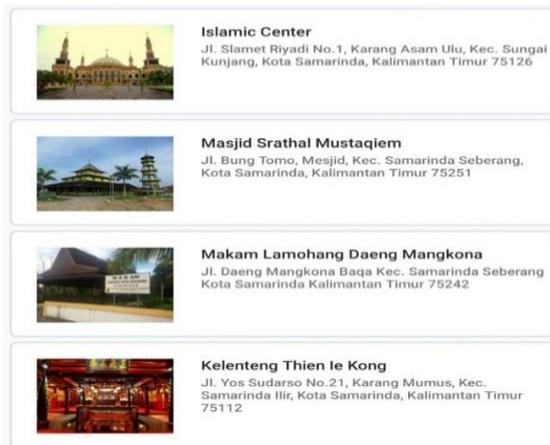
On the profile menu. Tourists can find out the history of the Samarinda City Tourism Office. It can be seen in picture 6.



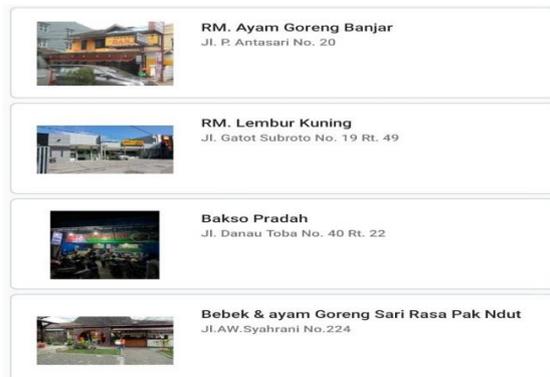
Picture 6. Profil Menu

c. Location List Page

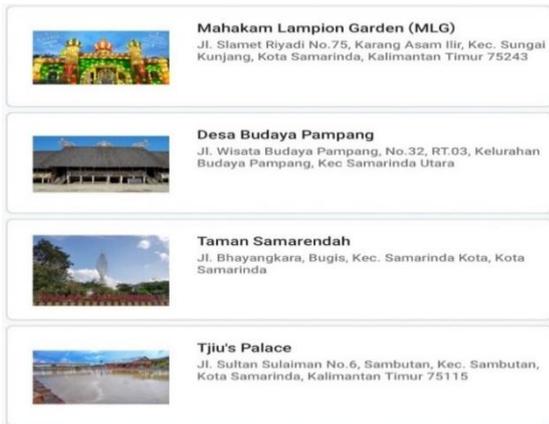
On the Location List menu. Tourists select from a list of available tours to visit the places the tourists have chosen. There are pictures of place names and addresses. It can be seen in picture 7,8,9,10,11.



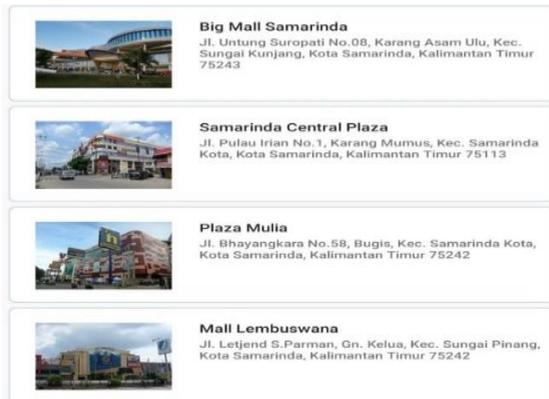
Picture 7. List of religious tourist attraction



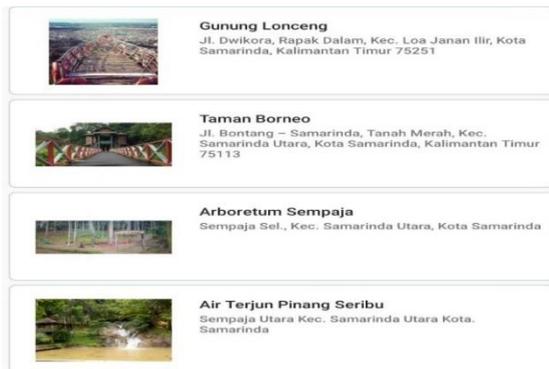
Picture 8. List of culinary attraction



Picture 9. List of artificial tourist sites



Picture 10. List of shopping attraction



Picture 11. List of natural attraction

d. Location Profile Page

The following is a tourist location profile page for tourists who want to take a closer look at the destination they want to visit, consisting of: Place name, Destination location, Description and map display. Can be seen in picture 12,13,14,15,16.



Picture 12. Profile of religious tourism places



Picture 13. Culinary tourism location profile



Picture 14. Artificial tourist site profile



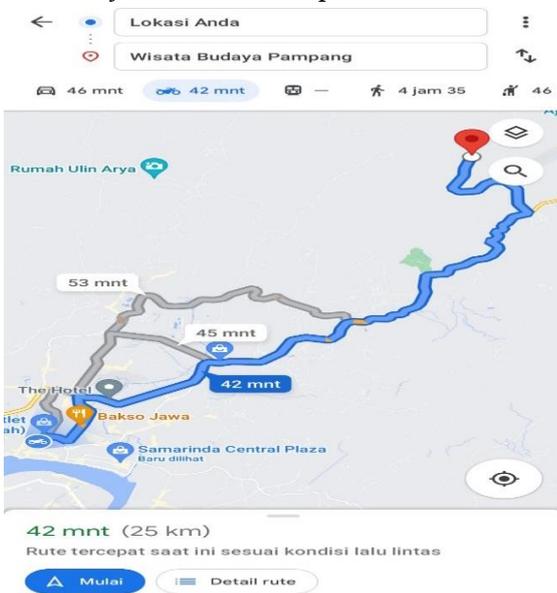
Picture 15. Shopping tourism location profile



Picture 16. Nature tourism site profile

e. Map View

The map display will show tourist location points to make it easier for tourists to find out the location of tourist objects. Can be seen picture 17.



Picture 17. View of the route to the tour

f. Tourism Data API

The transaction data API with the GET method is an API that displays information on tourism data in Samarinda which is recorded in the database. For tourism data API requests, use postman with GET method and URL <http://3e0448971fba.ngrok.io/restapi/pariwisata/api/pariwisata>. The result of the response is Json data.

```
{
  "status": true,
  "message": "Success",
  "data": [
    {
      "id_wisata": "14",
      "nama_wisata": "Taman Saling Srofa",
      "alamat": "Mugrejo, Kec. Sungai Pinang, Kota Samarinda, Kalimantan Timur 75241",
      "jenis_wisata": "Buatan",
      "latitude": "-0.4818907199323407",
      "longitude": "117.21623487678931",
      "keterangan": "Taman Saling Srofa yang berlokasi di Kelurahan Mugrejo, dengan luas sekitar 1/2 hektar. Taman ini di cipta - citakan sebagai wadah rekreasi dan edukasi berbasis alam, karena itu akan dinamakan dengan sebutan Taman. Taman ini memiliki fasilitas yang sangat banyak, antara lain halaman parkir luas, terdapat 5 gazebo, 5 unit pendopo, ada pula sepeda air dan rumah balon. Taman ini juga kerap dijadikan lokasi out bond dari berbagai kalangan.",
      "gambar": "taman_saling_srofa.jpg"
    },
    {
      "id_wisata": "15",
      "nama_wisata": "Mahaan Lampon Garden (MLG)",
      "alamat": "Jl. Slamet Riyadi No.75, Karang Asam Ilir, Kec. Sungai Kunjang, Kota Samarinda, Kalimantan Timur 75045",
      "jenis_wisata": "Buatan",
      "latitude": "-0.596437982744161",
      "longitude": "117.11963847706793",
      "keterangan": "Taman Rekreasi Mahaan Lampon Garden yang memiliki lahan seluas 7.500 meter persegi dan berlokasi di Jalan Slamet Riyadi, Kecamatan Sungai Kunjang. Taman Mahaan Lampon Garden yang berada persis di pinggir Sungai Mahakan, taman ini diklaim Lampon dengan berbagai bentuk diantaranya ikan, pepohonan, bunga, hewan, hingga miniatur landmark dari berbagai negara.",
      "gambar": "MLG.jpg"
    }
  ]
}
```

Picture 18. Tourism API Response

4. CONCLUSIONS

Conclusions that can be drawn from the application of the Samarinda City Tourism Geographic Information System based on Android, among others: With this application, users can see and find out what tourism is in the city of Samarinda where the object is located, consisting of 5 tours: religious tourism, culinary tourism, artificial tourism, shopping tourism and nature tourism and users can also find out the description of these tours. Users can search for information about tourism according to their wishes. With this application, users can easily find out about their vacation in Samarinda City.

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6. REFERENCES

- Albab, U., & Sucipto, D. 2017. Sistem Informasi Geografis Pariwisata Di Kabupaten Tegal Berbasis Android. *Power Elektronik*, Vol.6, No.1, 22-27.
- Anonim. 2020, September 04. Diambil kembali dari <https://leafletjs.com/>.
- Basith, G. H., & Kurniadi, D. 2017. Perancangan Sistem Informasi Pemetaan Pariwisata Garut Berbasis Geografic Information System dan Android. *Jurnal Algoritma*, Vol. 14, No. 1, 26-31.
- Karman, J., & Mulyono, H. 2020. Perancangan Sistem Informasi Geografis Lokasi Objek Wisata Di Kota Lubuklinggau Berbasis Android (Studi Kasus Dinas Pariwisata Kota Lubuklinggau). *Sistem Informasi*, Vol.12, No.1, 1917-1931.
- Palabiran, M., Cahyadi, D., & Arifin, Z. 2015. Sistem Informasi Geografis Kuliner, Seni Dan Budaya Kota Balikpapan Berbasis Android. *Informatika Mulawarman*, Vol. 10, No. 1, 54-57.
- Pujianti, Y. 2020, Agustus 13. Diambil kembali dari <https://medium.com/@yunitapujianti0/mengenal-materi-activity-diagram-pemodelan-perangkat-lunak-bagian-4-eb4f13e144ae>.
- Sukamto, R. A., & Shalahuddin, M. 2013. *Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek*. Bandung: Informatika.
- Umagapi, D., & Ambarita, A. 2018. Sistem Informasi Geografis Wisata Bahari pada Dinas Pariwisata Kota Ternate. *Ilmu Komputer dan Informatika*, Vol.1. No.2, 59-69.
- Yumono, B., Aribowo, A. S., & Setyawan, F. A. 2015. Sistem Informasi Geografis Berbasis Android Untuk Pariwisata Di Daerah Magelang. 68-74.
- Zein, S., Ghozi, R., Harahap, E., Badruzzaman, F., & Darmawan, D. 2019. Pengolahan Dan Analisis Data Kuantitatif Menggunakan Aplikasi SPSS. *Jurnal Teknologi Pendidikan dan Pembelajaran*, 4(1), 1-7.
- Zulius, A., & Daulay, N. K. 2019. Sistem Informasi Geografis Lokasi Wisata Kuliner Pada Kota Lubuklinggau Berbasis Android. *Sistem Informasi Musiwaras*, 04 No 02, 109-115.