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## **Geographical Information System for Telkomsel Grapari Locations for Mkios in Medan City**

**Suyanto Agus Irawan**

Information Systems Study Program, Main Potential STMIK Medan, Indonesia  
Email : suyantoagusirawan@gmail.com

### ***ABSTRACT***

*Currently the information data about the location of Grapari Telkomsel for MKIOS in Medan City has not been inventoried in a spatial-based web information system, the mapping data for the location of Grapari Telkomsel for MKIOS are still using Microsoft Word and have not been programmed. For this reason, the authors created a solution with a Geographic Information System, which is an information system that is used to enter, process, and produce geographically or geospatially referenced data, to support decision making in a plan. In this final project, we created a Geographic Information System (GIS) for Processing Telkomsel Grapari Location Data for MKIOS in the Medan City Region. This information system will later have a visualization in the form of a web that is used to map the location of Grapari Telkomsel for MKIOS in the Medan City Region. In the development of the Telkomsel Grapari Regional Data Processing system for MKIOS in the Medan City Region, PHP and MySql programming languages were used as database systems.*

**Keywords:** GIS, Geographic Information Systems, Web Applications, PHP, MySql.

### **1. Introduction**

Geographic Information System (GIS) is a computer-based system that is used to store and manipulate geographic information[1],[2]. Therefore, the data used and analyzed in a GIS is in the form of (spatial) map data which is directly linked to tabular data that defines the geometry of the spatial data.[3]. Currently, Grapari Telkomsel still does not use this geographic information system in processing data on the location of Grapari Telkomsel, especially for MKIOS, so that errors often occur in the process of entering data where the impact is on customer service where customers do not know the location of Grapari Telkomsel for the MKIOS. There are currently so many Grapari Telkomsel in Medan City that customers are confused when visiting Grapari Telkomsel because there is no difference between Grapari Telkomsel which serves MKIOS and those that do not serve MKIOS so customers are often disappointed as a result of this service.[4],[5].

For this problem, GIS will become an information system application that is able to analyze, especially display data interactively, database information systems and Grapari Telkomsel location information systems for MKIOS (spatial) so that it is expected that dcan cover the existing kelamhan.

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## **2. Methodology**

### **2.1 Analysis of Existing Systems**

In completing this thesis the author uses 2 (two) study methods, namely:

#### **a. Field Study**

Is a method that is carried out by conducting direct studies in the field to collect data, namely direct observation to the study location. The data collection techniques carried out by the author are:

##### **a) Observation**

The author collects data that is effective enough to study a system[6],[7]. Its activities are by direct observation of ongoing activities, namely data processing activities for Grapari Telkomsel locations for MKIOS in Medan City.

##### **b) Sample**

Take samples of Grapari Telkomsel location data documents for MKIOS in Medan City which are needed especially in making the system.

#### **b. Literature study (Library Research)**

The author conducts a literature study to obtain data related to thesis writing from various reading sources such as: books on information systems and applications php, mysql, and others - others.

### **2.2 Research sites**

The research location in writing this thesis was done by the writer at Graha Telkomsel

## **3. Results and Discussion**

### **3.1 Results Display**

The results of the geographic information system design for the location of the Grapari Telkomsel office for MKIOS that the author made have been completed where the display consists of 2 parts, namely the display for the admin and for the user. The appearance of the program that the author made can be seen in the following figure.

#### **a. Login form display**

The results of the front page display that the author made can be seen in Figure 1. below





Figure 2. Front Page

b. About Telkomsel page

The results of the page display about Telkomsel that the author made can be seen in Figure 2. following;



Figure 2. Page About Telkomsel

c. Telkomsel Product Page

The results of the display of the Telkomsel product page that the author made can be seen in Figure 3 below:



Figure 3. Telkomset Product Pages

d. Grapari Location Page

The results of the display of the grapari location page that the author made can be seen in Figure 4 below



Figure 4. Grapari Location Page

e. Admin page

The results of the display of the admin page that the author made can be seen in Figure 5 below





Figure 5. Admin page

f. Telkomsel's Grapari page

The results of the display of the Telkomsel Grapari page that the author made can be seen in Figure 6. Following:



Figure 6. Branch Office Data Page

g. Telkomsel Grapari Location Page

The results of the display of the Telkomsel Grapari location page that the author made can be seen in Figure 7 below

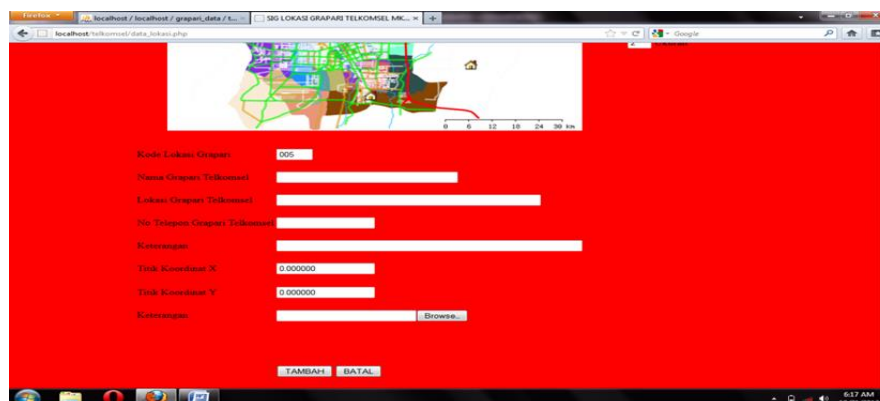


Figure 7. Telkomsel Grapari Location Page

h. Instructions for Use page

The results of the user manual page display that the author made can be seen in Figure 8 as follows:

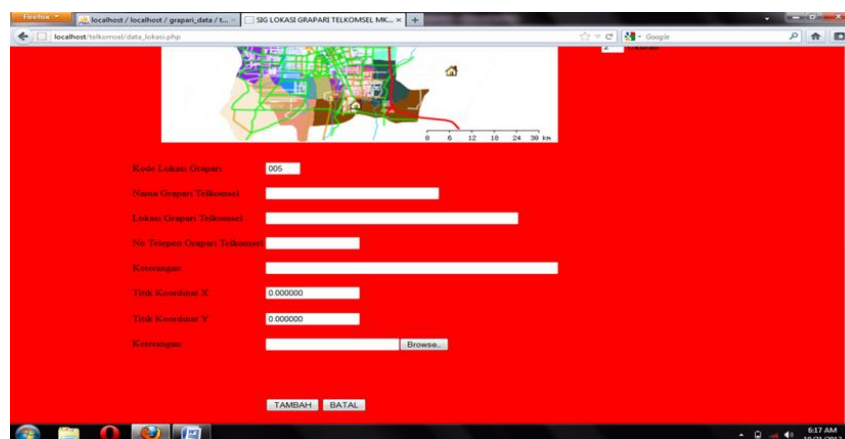


Figure 8. Instructions for Use page

### 3.2. Discussion

The result of the web-based application of the Grapari Telkomsel office location information system for MKIOS in Medan city is to provide convenience to the public in presenting information about the Grapari Telkomsel office for MKIOS in Medan city.

In this application, the author uses the PHP programming language with MySQL database and Arc View to see a map of the location of Grapari Telkomsel for MKIOS in the city of Medan, the application used is Mozilla Firefox.

At this stage it also explains how the results of the system evaluation are carried out. Black-box testing is a testing method in which the assessment of the application lies not in the specification of the logic/function of the application, but in input and output. With the various inputs provided, it will be evaluated whether a system/application can provide output that is in accordance with the expectations of the tester.

### 4. Conclusion

After describing the workflow for making this system, several conclusions can be drawn as this geographic information system provides various information regarding the location of Grapari Telkomsel for MKIOS in Medan City. Produced very useful information about the location of Grapari Telkomsel for MKIOS in Medan City. To provide convenience for the user so that it can make it easier to get information. Can be used as a learning media Geography.

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