



Cctv Customer Location Data Processing on Webgis Based A & S Security System

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ARTICLE INFO	ABSTRACT
Article history: Received Jan 30, 2023 Revised Feb 17, 2023 Accepted Feb 28, 2023 Keywords: GIS Geographic Information Systems Web Applications PHP MySql	Geographic Information System (GIS) is a computer-based information system, designed to work with data that has spatial information (spatial reference). Currently the information data about the location of CCTV Customers on the A & S Security System in Medan City has not been inventoried in a spatial-based web information system, the mapping data for CCTV Customer locations on the A & S Security System in Medan City still uses Microsoft Word and not 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 planning. This information system will later have a visualization in the form of a web that is used to map the location of CCTV Customers on the A & S Security System in Medan City. In the development of the CCTV customer location processing system at the A & S Security System in Medan City, PHP and MySql programming languages were used as database systems.

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1. INTRODUCTION

At present the rapid development of information technology in Indonesia has brought new changes in people's behavior in all daily activities, both personal activities and the activities of an institution/agency/company ([Waluyo, 2017](#)). The current trend of Indonesian society is to rely heavily on digital things, this paradigm arises as a result of the complexity of all aspects of life which demand that all processes occur quickly, precisely, accurately, effectively and efficiently ([Mubarok et al., 2019](#)).

In general, a system can be defined as a set of objects, ideas, and their interrelationships in (efforts) to achieve a goal (or certain common goals) ([Samsudin et al., 2022](#)). Or, in other words, the system can be described as a collection of components (physical and non-physical/logical sub-systems) that are interconnected with each other and work together harmoniously to achieve a goal.

In fact, the condition of the information system regarding Data Processing of Customer Locations That Have Installed CCTV On A & S Web-Gis-Based Security System in Medan City, namely information that can be accessed by the general public quickly and precisely and accurately is inadequate, this is due to the absence of a data information system fast and up to date (Barus et al., 2019). Besides that, various information data about the location of customers who have installed CCTV on the A & S Security System in Medan City have not been inventoried in a spatial-based web information system, mapping data on the location of customers who have installed CCTV on (Barus et al., 2019). The A&S Security System is still manual and not computerized (Hidayat & Effiyaldi, 2020).

As we know that in this era of globalization, technological progress is very rapid (Amir, 2022). Lots of research has been carried out to encourage new discoveries in the world of technology, especially information technology (Pratiwi, 2022). One of these inventions is the Geographic Information System (GIS), which is a computer-based information system designed to work with data that has spatial information (spatial reference) (Pratiwi, 2022).

The definition of GIS is (most likely) still evolving, improving, and varying a bit. This can be seen from the many definitions of GIS that have been circulating in various sources of literature (Asmorojati, 2022). More than that, GIS is also a field of study of science and technology that has not been developed for too long, is used by various fields or disciplines and is growing rapidly (Rosyada, 2020).

This system captures, checks, integrates, manipulates, analyzes, and displays data that is spatially referenced to earth conditions (Zulius & Daulay, 2019).

To overcome the problems that occur above, web-based GIS (geographical information system) technology can help users or the general public to view overall information easily and quickly (Khuthoibi et al., 2021).

2. RESEARCH METHOD

2.1 Existing System Analysis

Method is a systematic way or technique to work on a case. The methods used in conducting research and solving problems are:

a. Field Study

Is a method that is carried out by relying on direct studies to the field to collect data, namely direct observation to the study location. The data collection technique that the author uses is as follows: Observation, the author visits the A & S Security System office to obtain the required information, Interviews, namely data collection by conducting question and answer with competent parties.

b. Literature study (Library Research).

The author conducted a literature study to obtain data related to thesis writing from various sources related to the theory of information systems such as geographic information system design, web application design, PHP and MySQL.

c. Implementation and design

The implementation was carried out in an offline computer situation, and we managed to put the required files in the available Apache folder.

d. Verification

After the specifications and design are clear, then the application is made by utilizing each function. To find out whether the utilization of each function can work properly it needs to be verified. Thus, if there are errors or deficiencies, they can be corrected first before being assembled into a complete and ready-to-use application unit.

e. Validation

At this stage, a thorough application test is carried out, including functional testing and system robustness testing. Functional testing is carried out to find out that the system application can work properly according to its working principle. Testing is related to the ability of the application to run on the system, namely on a PC with a Pentium Core i3 2 Ghz Processor, 2 Gb Ram, 640 MB Hard Drive. From this validation it can be seen that the suitability of the design results with the expected needs analysis.

f. Finalization

At this stage the application has become an application that is expected of the goals and benefits to be achieved, and the application has become an application that can be used.

2.2 System Comparison

The current system is still manual and inefficient both in terms of time and cost. The customer data collection process takes a long time because there are no applications that display customer data. On the old system, the administration section did record data storage which resulted in long data searches. There is no database to store data, making it difficult for the administration to find data. Therefore the authors designed a new system with the PHP programming language and MySQL database using the UML method. This system already has a database to store data and can be processed automatically so that it can cover weaknesses in the old system.

2.3 Testing applications that have been made.

System testing is carried out using the Mozilla Firefox application where the MySql database is first activated on Xampp, then in the browser address url, type the localhost address and the name of the folder where the data is stored in MS4W as a web server on this system.

3. RESULTS AND DISCUSSIONS

3.1 Display Results

The results of the design of CCTV customer location data processing on the GIS web-based A & S Security System 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 display of the program that the author made can be seen in the following figure:

Display For Users

a. Home page

Is the initial display that is used by the user. The home display can be seen in Figure III. 1 of the following:



Figure 1. Home page

b. About Us Page

Is a display that provides company information. The display about us can be seen in Figure III.2 below:

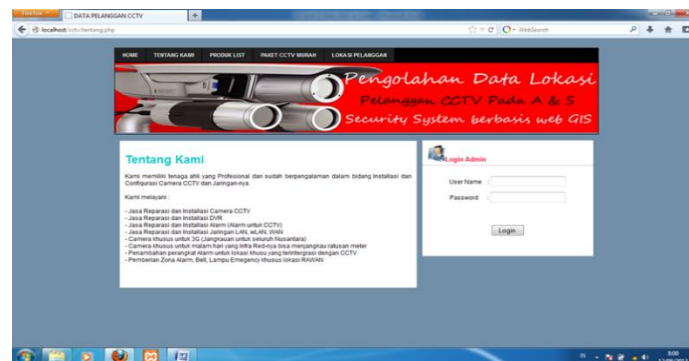


Figure 2. About Us Page

c. Product List Page

Is a display that provides information on the product being sold. The product list display can be seen in Figure III.3 below:



Figure 3. Product List page

d. Cheap CCTV Package page

Is a display that provides information on cheap CCTV packages. The display of cheap CCTV packages can be seen in Figure III.4 below:



Figure 4. Cheap CCTV Package Page

e. Customer Location Page

Is a view that provides customer data information. The customer location display can be seen in Figure III.5 below:



Figure 5. Customer Location Page

Display For Admin

a. Admin home page

Is a display that is the initial menu used by the admin. The appearance of the home admin can be seen in Figure III.6 below:



Figure 6. Home Admin page

b. Customer Data Report Page

Is a view that is used to view customer data. The display of customer data can be seen in Figure III.7 below:

NO	NAMA PELANGGAN	JENIS CCTV	LOKASI PELANGGAN	NO TELEPON
1.	aan	Camcorder	Martubung	081262478066
2.	Andre Satia Prasetyo Tanjung	Articams	Jl. Puncung 2 Medan	087766432903
3.	ahmad	Articams	Articams	ahmad
4.	ahf	Articams	Suf	ahf
5.	mb	Articams	jk	787
6.	aaa	Hj	Hj	ri

Dikumpulkan di Medan
Pada Tanggal : 28 Oct 2013

Figure 7. Customer Data Report Page

c. Customer Location Page

Is a view that is used to process customer location data. The display of customer location data can be seen in Figure III.8 below:



Figure 8. Customer Location Page

d. CCTV Type Data Page

Is a display that is used to process CCTV type data. The display of CCTV type data can be seen in Figure III.9 below:



Figure 8. CCTV Type Data Page

2.2 Trials

The results of the CCTV customer location data processing application on the GIS web-based A & S Security System are to provide convenience to the public in presenting information about CCTV customer location data processing on the GIS web-based A & S Security System.

In this application, the author uses the PHP programming language with MySQL database and Arc View to view maps of CCTV customer location data processing on the GIS web-based A & S Security System, the application used is Mozilla Firefox.

The following are the results of the system trials that the authors found, which can be seen in table III.1. the following :

Table 1. Trial

No.	Trials	Trial Results		
		Good	Currently	Not enough
1	WebView	-	√	-
2	Information Results	√	-	-
3	Color combinations	-	√	-
4	Access Way	√	-	-
5	How to use	-	√	-
6	Security	√	-	-

So it can be concluded that from the display that the author has made that has been tested is of good value as well as the information provided so that it can make it easy for users to use it so that the admin can also provide the best information because it has easy access and good system security.

4. CONCLUSION

After describing the workflow for making this system, several conclusions can be drawn as follows: Generate information that is very useful in recording CCTV customer data on the A & S Security System. This system helps administration or customer services in providing services to customers with a fast and precise system. This geographic information system provides various information regarding the location of CCTV customers at the A & S Security System in the city of Medan. To provide convenience for the user so that it can make it easier to get information.

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