THE IMPLEMENTATION OF WEBGIS TO SHOW THE SPREAD OF HALAL CUISINE SPOTS IN MEDAN

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ABSTRACT

Halal food is one of the obligations for Muslims that must be carried out and obeyed. Medan is one of the culinary cities in Indonesia and often called as the paradise of culinary, not only traditional cuisine, Medan also serves culinary delights from various parts of the world, from Asian food to Western food. However, not all culinary in Medan is registered as halal food, therefore a system that can manage the data of halal food in Medan is needed. *WebGis* is a computer-based system that has the ability to handle spatial and non-spatial data. This system is built using Google Maps API as a tool to determine the distribution of halal cuisine spots in Medan. The *WebGis* of the distribution of halal cuisine spots in Medan presents spatial and non-spatial information about the distribution. This system also provides information about halal cuisine that has been registered in the system that has been built.

Keywords : WebGis, Halal Cuisine, Google Maps API

INTRODUCTION

Information technology developed at this time has influenced various aspects of human life in carrying out daily activities. Technology that is developing now has made information management can be done quickly, actual, optimal, and also can be accessed whenever and wherever needed. Jakarta, Surabaya, Medan are metropolitan cities with a myriad of culinary delights. Especially Medan, the capital city of North Sumatra, has a variety of ethnicities and cultures, such as Malay, Batak and Chinese. The various ethnicities affect the variety of culinary spread in Medan. Currently,

halal cuisine is a trend that is being promoted by the government to attract the interest of foreign tourists, especially those who are Muslim. Therefore, we need a system that can accommodate the needs of tourists in searching for halal cuisine spots in Medan. Website Geographic Information System (*WebGIS*) is a technology that is able to store and process spatial and non-spatial data and then present it in the form of maps. This system is able to provide information about the location of halal cuisine in Medan.

LITERATURE REVIEW
WebGIS

Based on its name, *WebGis* is a distributed web-based GIS System, so users can use the GIS system via Web. One example of web-based GIS is Google Map (Irwansyah, 2013). *WebGis* is a combined product of web and GIS technology. It is a new technology developed from extending and improving GIS application. At any node of the internet, user can browse the spatial data in WebGIS sites. Make thematic maps, and carry out various spatial information retrieval and analysis (Li, 2020).

Halal cuisine

In Islam, halal and haram are part of the laws of Shara' which are opposite from each other. Halal refers to the things that are permitted, while haram refers to the things that are prohibited. Every Muslim is ordered to consume halal food/drink and Thayyib (good and healthy). On the contrary, we are forbidden to consume unclean food/drink (Mayasari, 2007).

Google Maps API

Google Maps API is a library in the form of JavaScript that can be used to modify maps on Google Maps according to user needs. To develop the applications that utilize Google Maps on desktops and mobile devices, the Google Maps JavaScript API will be used since it is faster than previous versions (Alqod, 2012).

Unified Modelling Language (UML)

Unified Modeling Language (UML) is a standard specification language that is used to document, specify and build software. UML is a

method for developing object-oriented systems and also a tool to support system development (Suendri, 2018).

RESEARCH METHODS

In this study, the method used is the Waterfall research method. The object of this research is the Institute of Food, Drug, and Cosmetics Study of the Indonesian Ulema Council (LPPOM MUI) of North Sumatra, where the author will conduct interviews and take halal cuisine data that has been certified by the Institute. This Waterfall method approaches systematically and sequentially starting from the system requirements stage to the stages of analysis, design, coding, testing/verification, and maintenance (Muhartono, 2016). The flow in this method is as follows:
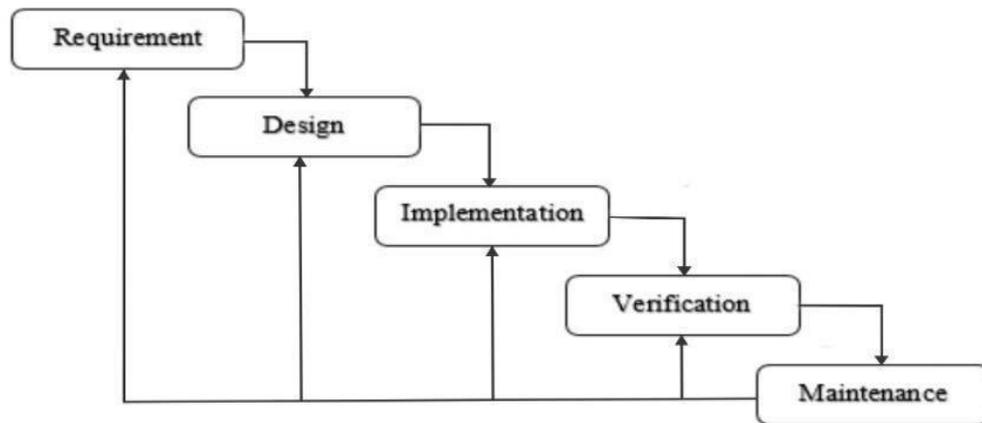

Figure 1. Waterfall Method

RESULT AND DISCUSSION

A. Table

Table used in this design is as follows:

1. Admin

Admin table is used to store system user data :

Table 1. Admin Table

No	Field Name	Data Type
1.	Id	Integer
2.	name	Varchar
3.	*username*	Varchar
4.	*Password*	Varchar

5.	avatar	Varchar
6.	created-at	timestamp
7.	updated_at	timestamp

2. Halal Cuisine

   Location table is used to store all of the halal cuisine data in Medan :

Table 2. Location Table

No	Field Name	Data Type
1.	id	Integer
2.	title	Varchar
3.	description	*text*
4.	info	*text*
5.	image	varchar
6.	latitude	Varchar
7.	longitude	Varchar
8.	Created_at	timestamp
9.	Updated_at	timestamp

B. *Usecase* Diagram

    Broadly speaking, usecase diagrams are used to do certain jobs that describe the business process system itself. Usecase diagrams illustrate the functional expected of a system. Usecase is a specific job, such as managing culinary data and so on. Based on the system to be built, the usecase diagram that is displayed will be used to explain features that can be used by users. The following is a usecase diagram design in this system:
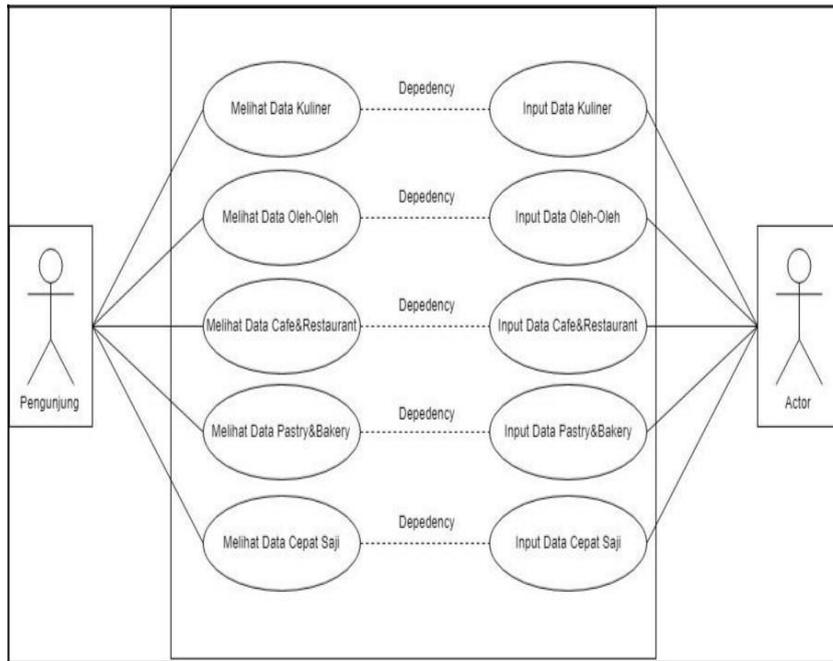
Figure 2. *Usecase* Diagram

C. *Class* Diagram

Diagram *class* is a description of the relationship between classes or tables used in the system. The class diagram can be seen as follows:
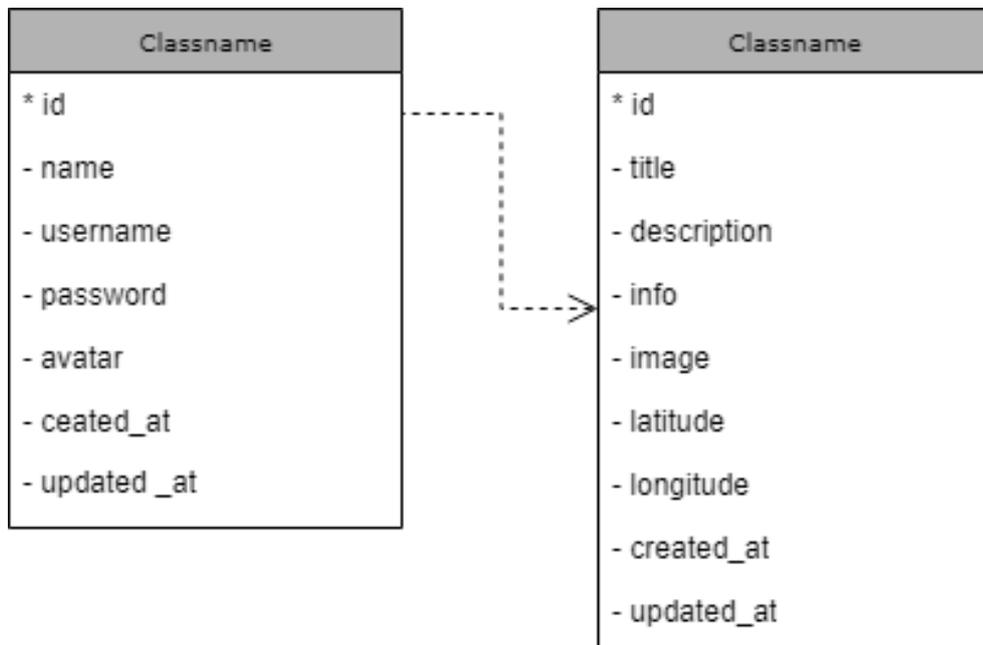

Figure 3. *Class* Diagram

D. *Activity* Diagram

  Activity Diagram shows workflow or admin activity on all menus created in the system. The following is the admin activity on the system related to the halal cuisine list menu, namely adding halal culinary data
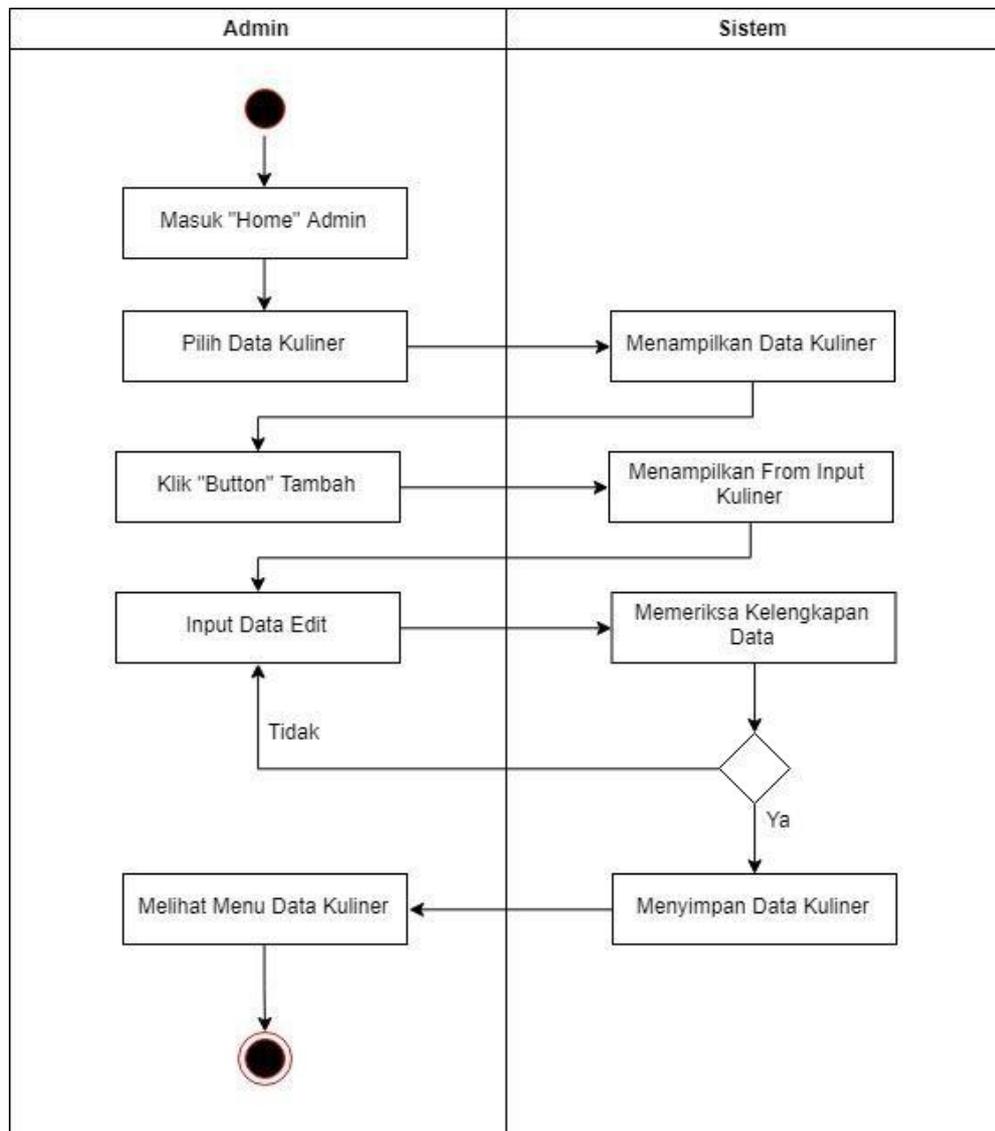

Figure 4. *Activity* diagram

E. *Squence* Diagram

  Sequence diagram is a diagram that shows/displays interactions between objects in the system arranged in a sequence or time series. Sequence diagrams are used to illustrate a scenario or series of steps performed as a response to an event to produce a specific output.
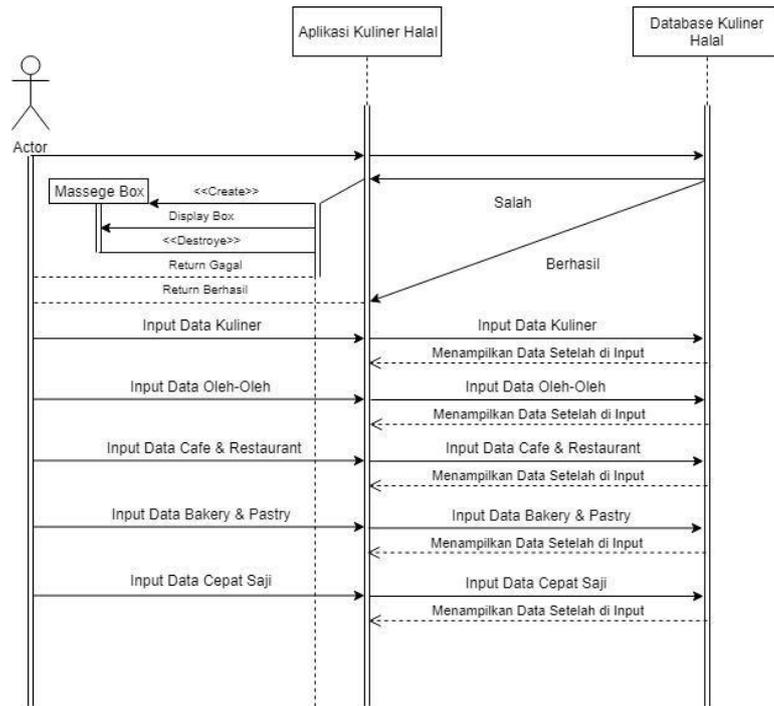
Figure 5. *Squence* Diagram

Figure 6 shows an output table display or results on a system that has been built. In the picture shows a list of halal culinary distribution in Medan.


Figure 6. Halal Cuisine List

Figure 7 shows a display of cuisine categories that have been categorized according to the type of available cuisine. Where displaying

halal cuisine categories in Medan such as souvenirs, café & restaurant, bakery & pastry, and fast food.
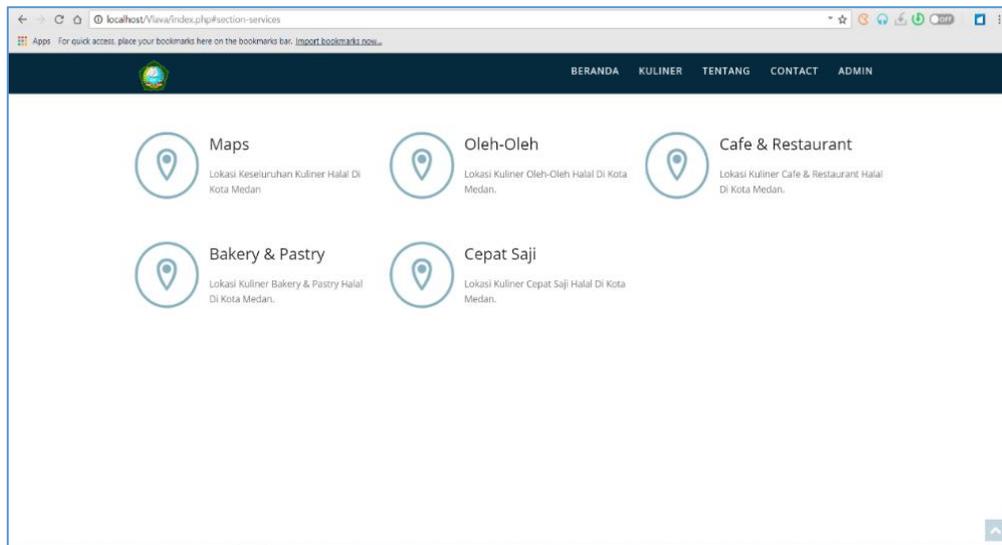
Figure 7. Halal Cuisine Categories

Figure 8 through 12 show the results of WebGis created using tools from Google Maps API. Where can display details and locations of halal cuisine spots in Medan.

Figure 8. Map of Halal Souvenirs in Medan
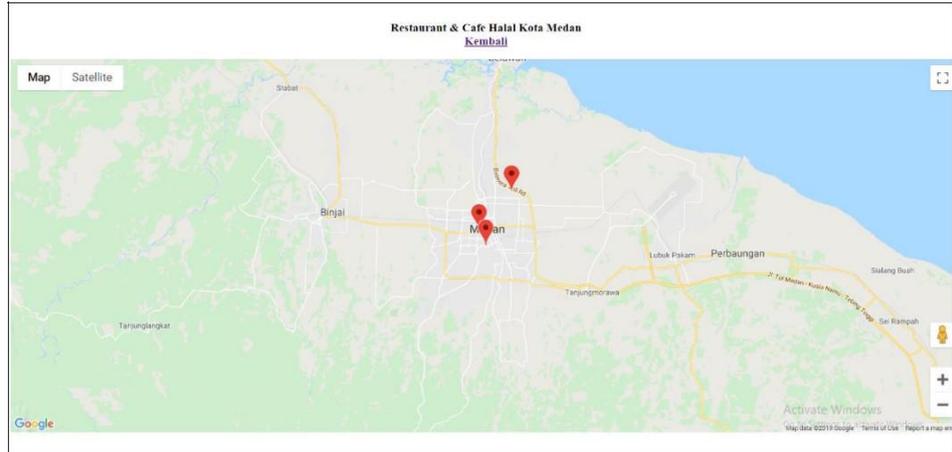
Figure 9. Map of Halal Café and Restaurant in Medan
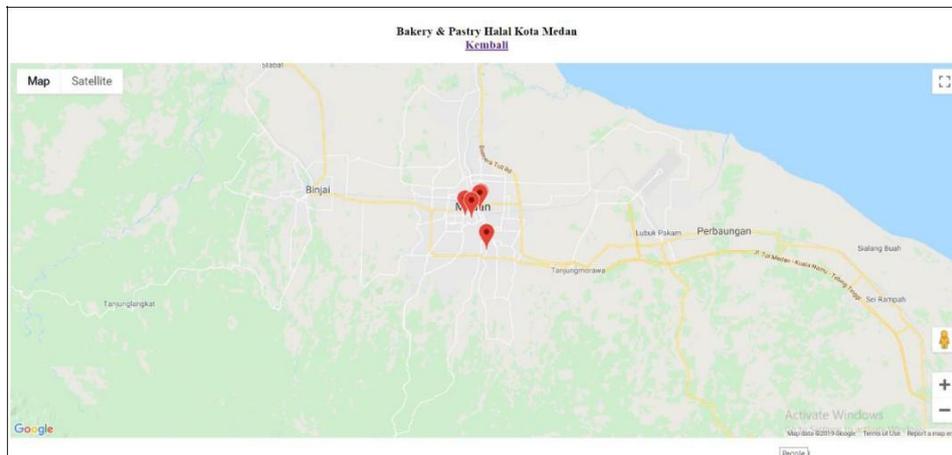
Figure 10. Map of Bakery and Pastry in Medan
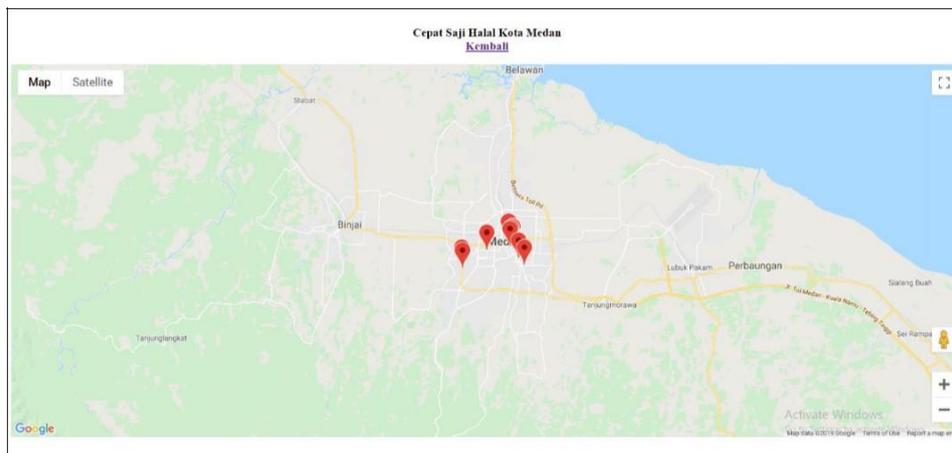
Figure 11. Map of Fast Food in Medan

CONCLUSION

WebGis is a system for displaying web-based area mapping that can manage spatial and non-spatial data. Hence, WebGis is very suitable to be applied to an application that displays the location of halal cuisine distribution in Medan.

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