Website-Based Information System for Mapping Restaurants or Eating Places in DKI Jakarta Using Google Maps

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Abstract. Technology continues to develop very rapidly, especially in the field of information both in print and electronic media that provides information in the form of text, sound and images. Currently there are many restaurants or other eating places that use the internet to promote themselves. Therefore, this website-based application program is created to map restaurants or eating places using Google maps. The purpose of this program is to make it easier for users to get information about restaurants or eating places that exist today.

Keywords: GIS, Google Maps, Information System, Restaurant

1. Introduction
Food is one of the basic needs that humans need to survive. As the population grows, the need for food increases. This condition is an opportunity for food producers to develop businesses in the restaurant business. The prospect of a food business, especially in the form of restaurants or eating places in the Capital City of Jakarta is very promising. With the many varied restaurants or eating places scattered around, clear information is needed to find out information about the restaurant or eating place (Zhai et al. 2015). The reason is because, people always share their experience on web services (Fenny et al. 2020). At present, many internet users have contributed to providing information on restaurants and other eating places by giving several assessments based on different rating categories (Mellet et al. 2014). In providing an assessment, a direct review is needed to find out what kind of assessment is needed at the restaurant or eating place (Rodríguez-López et al. 2019).

2. Method and materials
2.1 Data Collecting Method
Data collection methods used was observation and interviews. Direct observation at the location of the restaurant can help to clarify the information needed in the dissemination of information that will be included in the program. From the observation results, primary data is obtained directly such as the restaurant profile and the activities (Fry et al. 2017). Data collection by interview is a method of collecting information done by asking questions verbally to be answered verbally also with the parties concerned in accordance with the information sought (Harrell & Bradley, 2009). Interviews are used to gather facts about the system, needs, and arrangements (Vivien et al. 2020, Fenny et al. 2020). Through these methods, it can greatly help in making application programs to provide more accurate information.
2.2 System development method
Rapid Application Development (RAD) method was used in making this program as an information developer. The RAD method is used because this method focuses on program development. The RAD method also includes approaches by combining analysis, design, and testing system development in a short period of time (Berger and Beynon-Davies 2009). RAD focuses on inspection - discussion - development cycle and change until user requirements are met.

3. Literature Review
At present, the need for information service providers on restaurants continues to increase, especially in urban centers. Consumers seek the experience of eating in a restaurant that provides not only good food, but also good service. About 60% of consumers read a review and rating of a restaurant that they want to visit beforehand (Liu et al. 2014). Referring to the website of an online review and rating provider named "Dianping", this application provides ratings based on food, service, and decoration categories. This rating is used by consumers to choose the restaurant they want to visit (Lu et al. 2013). A restaurant with a high rating also shows a high level of customer satisfaction and a high level of popularity (Parasuraman, Zeithaml, and Malhotra 2005). The reason why ratings and reviews are very important is also shown from the results of studies in the tourism industry claiming that consumers' decision in choosing a restaurant is directly proportional to the results of a restaurant review (Duan, Gu, and Whinston 2008).

4. Result and Discussion
In making this program, MySql database is used to store application system information data while using PHP and HTML as a programming language. Information stored in the database is recorded in Relationships between Tables. Relationships between tables can be seen more clearly in (Figure 1).
Figure 1: Relationship Between Tables
4.1 Mapping of restaurants or eating places in DKI Jakarta

This application program can input coordinate points using Google maps that can select the locations of desired restaurant. The chosen location on the map will produce longitude and latitude coordinate points to be entered into the database. For more details, see (Figure 2). The coordinate points that have been accommodated in the database are shown in (Table 1).

![Figure 2. Coordinate Input](image)

| Coordinate Table (Note: KFC & Burger King pictures are copyright of KFC and Burger King) |
|------------------------------------------------|
| No. | Restaurant | Address | Latitude | Longitude | Menu |
|-----|------------|---------|----------|-----------|------|
| 1   | KFC        | Jl. Rajawali 99, Cilandak, Jakarta Selatan | -6.201621242080038 | 106.78096043359375 | |
| 2   | Burger King | Jl. Cakung, Jakarta Utara | -6.204844903710664 | 106.8302641520512 | |
| 3   | McDonald’s  | Jl. Dago Barat, Bandung | -6.863307122470151 | 107.6571044916236 | |
| 4   | Pizza Hut   | Jl. Thamrin, Jakarta Pusat | -6.206638562015131 | 106.8539264013672 | |

The coordinates that have been entered into the database can be read by the Google Maps Javascript API so that it can display the location points entered into the database. By entering the current location point the user can find out where the location point of the restaurant was previously entered in the database. Detailed picture of location point can be seen in (Figure 3). The details of the restaurant at the location point can be seen in (Figure 4).
5. Conclusion and Future Works

This application program is useful for the community to find information about the location of restaurants that are unreachable in accordance with the information users want clarified on the restaurant obtained by the method used to obtain restaurant information. It is hoped that this application program can be further developed so that it can provide many benefits to the community.
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