



## RESEARCH ARTICLE

# Android Based Application for Searching Indekos In Pasar Minggu Jakarta South With Location Based Service (LBS) Method

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**Abstract**

Often the availability of the number of boarding houses is not comparable to the number of boarding house seekers, so boarding seekers must find information more quickly in order to get a place to live according to what they want. Boarding house owners promote their boarding houses in a conventional way, namely by word of mouth, distributing brochures, or posting announcements in public places. Based on these problems, an Android-based boarding house search application is needed, an application system that can be a place for out-of-towners who feel confused in finding boarding houses that suit their wishes, and can help boarding owners promote their boarding houses online via a smartphone based on android. The research objective was to design a boarding house search application in Pasar Minggu, South Jakarta, the method used was the waterfall methodology, which is a system method that begins with the requirements analysis stage, then system design, implementation of application development, and users are carried out. This application system was developed using the Java programming language and utilizing Location Based Services and Google Maps. The results of the research resulted in a boarding house search application that makes it easier for users to find boarding houses according to their needs and also this application can provide information about boarding facilities and this application can also make it easier for boarding house owners to publish their boarding houses.

**Keywords**

Boarding Search; Waterfall; Android Studio; Location Based Service.

## 1 | INTRODUCTION

The current rapid technology makes it easier for people to obtain various kinds of information, one of which is information on boarding houses [1][2][3]. The word boarding house comes from the Dutch phrase "in de kos", the word kos is from the word boarding house, which is a service that offers a place to live for a certain amount of money, generally for a period of per month [4][5][6]. A boarding house is one of the accommodation service providers or temporary residences with various facilities that have been provided. Often the availability of the number of boarding houses is not comparable to the number of boarding house seekers, so boarding seekers must find information more quickly in order to get a place to live according to what they want. Boarding house owners promote their boarding houses in a conventional way, namely by word of mouth, distributing brochures, or posting announcements in public places. Based on these problems, an Android-based boarding house search application is needed, an application system that can be a place for out-of-towners who feel confused in finding boarding houses that suit their wishes, and can help boarding owners promote their boarding houses online via a smartphone based on android.

Boarding houses or boarding houses are quite helpful for migrants or people who are far from where they live, be it workers or students, because the location is relatively close so it can save time. The Sunday Market itself has many boarding houses with various facilities, prices and comfort. Based on the results of interviews with boarding house owners and boarding house residents, there are people who have not utilized information technology to search for boarding houses, they still have to ask friends or ask the boarding house owner directly to compare the location, facilities and prices. The price offered is also one of the competitiveness to attract the hearts of prospective boarding house residents. The application allows the user to connect information about the location of the boarding house closest to the user's position, the closest location can be obtained from the coordinates where the user's position is then the system will display the closest boarding house to the user's point, thereby minimizing time in finding the desired boarding house. The application will provide detailed information about everything related to the boarding house, such as pictures of the boarding house, boarding house address, boarding house price list, facilities and boarding house owner/caretaker number. This application is expected to help boarding house providers promote them, and make it easier for consumers to find boarding houses. Because this application focuses on the Sunday Market area, there are more boarding options than other applications, and another advantage of this application is that it can determine the position of the boarding house's distance from the point where the user is located, as well as providing the route that the user will pass which will be connected directly with Google Maps.

With this background, the authors designed an Android-based boarding house search application at Pasar Minggu, South Jakarta with the Location Based Service (LBS) method using PHP MySQL. Based on the description of the research problem boundaries, the writer can find several problem formulations. How do you make it easier for the public to find boarding houses in the Sunday Market? Then how do you make an application so that people know information about prices, addresses and facilities in the boarding house? As well as displaying the distance and route that will be passed between the user and the boarding house to be addressed. From making the Search Application for boarding houses at Pasar Minggu, it aims to make it easier for the public to find boarding houses in Pasar Minggu, provide information about prices, addresses, contacts for the owner or caretaker of the boarding house and the facilities provided by the boarding house, and display the distance to the user's position. with the boarding house, as well as the route that the user will take to get to the boarding house. With the creation of this application, it can provide benefits that will be obtained by boarding owners, namely being able to help promote boarding houses that are offered with various kinds of facilities provided. The benefit for users is that it makes it easier to find a boarding house with a variety of options available, according to what consumers want. The benefits of making this application are expected to help boarding providers and consumers in providing various kinds of information about boarding houses or boarding houses in Pasar Minggu.

## 2 | BACKGROUND THEORY

The boarding search application is a platform that provides information about boarding houses or boarding houses for rent in certain areas and areas and at least contains information on boarding prices, boarding facilities and boarding pictures uploaded directly by the boarding owner. The boarding house platform makes it easy for those of you who are looking for info on the closest boarding house around the desired area. The conveniences provided by this service, such as the boarding price filter feature that can be adjusted to your needs, of course, this feature will really help you get boarding houses that fit your budget more quickly. Apart from that, there is also a boarding house type filter, visiting hours and also a boarding room facility filter that you can set so that you can get a comfortable boarding room according to the needs of the tenants. Information on boarding houses that are rented

is also directly provided by the owner, which of course has been curated for the truth by our team. Convenience is certainly provided not only to boarding seekers, but also to boarding house owners to be able to post information on boarding houses for rent.

Several studies have revealed the importance of this app for local and national tenants especially international visitors who wish to get cheaper accommodation information. Yusmaida (2020) produced a Web-Based Boarding Search Information System Using the Hill Climbing Method that can be a solution for people from outside and within the city of Bandar Lampung to find information on boarding houses with the closest distance [7]. Rahmalisa (2020) also explained that the boarding search system makes it easy for boarding owners and seekers to provide information or find information about boarding houses [8]. Some researchers have also used various methods and algorithms such as the application of Dijkstra's algorithm [9] and location-based services in boarding house search applications [10].

### 3 | METHOD

The research with the title Application for Searching Boarding Houses at Pasar Minggu, South Jakarta Using the Location Based Service Method using PHP MySQL Based on Android, was conducted in the Pasar Minggu area, South Jakarta, from January 2022 to July 2022. The methodology used in this application is the waterfall method. or the waterfall method, because the steps are sequential and systematic, starting with the requirements analysis stage, then system design or design, implementation, then testing and maintenance) [11][12]. The following is the waterfall method or waterfall model which can be seen in Figure 1 below.

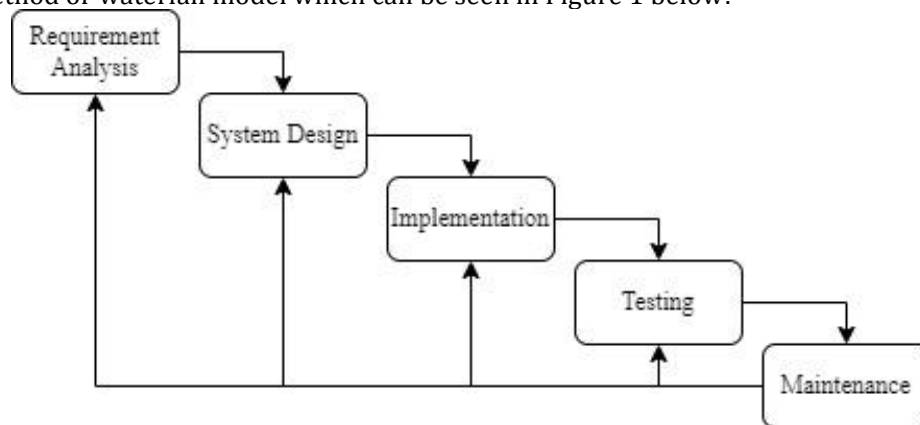


Figure 1. Waterfall Method

Following are the details of the results of data and information collection carried out using these techniques: Interviews were conducted to obtain all the information needed in designing the system to be built. From the results of interviews that the author has conducted with boarding house seekers, it can be concluded that boarding house owners generally still promote their boarding houses manually, such as placing the words "Accept Boarding" in front of the house. Where this is still considered inefficient because the boarding house seeker knows the location of the boarding house. Boarding house seekers generally get boarding house information from references from relatives, friends, and information from promotional boards. The rental system is generally done per month. Observations were made by visiting and directly observing the location of boarding houses in the Pasar Minggu area. The data obtained from the observations is regarding the way boarding houses are advertised by boarding house owners which are still considered inefficient for boarding house seekers in terms of how to find information about boarding houses that can be rented by simply attaching a promotional board. Boarding house seekers must conduct an in-person survey. Literature study results from various sources of literature obtained, namely that currently the available system for information on boarding houses from searching to ordering is still very few and in general promotions from boarding owners are carried out by placing advertisements in print or electronic media. Data collection and documentation The author collects data regarding the identity of boarding house owners, boarding house tenant identities, boarding prices, available boarding facilities, and other information related to boarding houses. The data obtained from this documentation will be used as a basis for making normalized data later. The Sunday Market itself has many boarding houses with various facilities, prices and comfort. Based on the results of interviews with boarding house owners and boarding house residents, there are people who have not utilized information technology to search for boarding houses, they still have to ask friends or ask the boarding house owner

directly to compare the location, facilities and prices. The price offered is also one of the competitiveness to attract the hearts of prospective boarding house residents. In the process of developing this application, the author uses the programming language PHP and MySQL as the database. PHP is an interpreter language, not a compiler. Which means the PHP source code will be directly interpreted and produce output without producing an execution file first. As a web developer language, PHP is still relatively popular among software developers [13]. Meanwhile, Android Studio itself is used as an integrated tool that is rich in features so that it helps make Android applications, including the testing process. LBS provides the most relevant services and information for users at that location with technology that supports this including cell of origin (also known as cell ID), AOA, time of arrival (TOA), EOTD and GPS or Assisted GPS [14][15].

## 4 | RESULT

The following is a display of the boarding house search application program in Pasar Minggu, South Jakarta, as shown in Figure 2 below.



Figure 2. App Initial View

Figure 2 above is the initial display when opening the boarding house search application. There is an article Searching for Pasar Minggu Kost (PKPM) and looking for a boarding house.

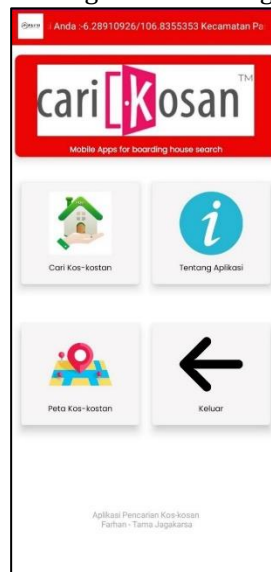
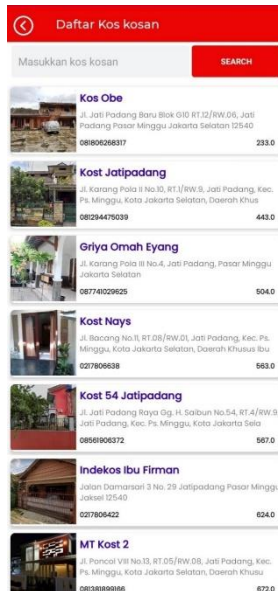


Figure 3. Appearance Main Menu Application.

In figure 3 above is the main menu image of the application. There is the location of the coordinates of the user's position, the logo for the boarding house and there are menu options Search for boarding houses, About Applications, Map of boarding houses and menu options for Exiting the application. Can be seen in Figure 4.a below is the application display on the boarding house search menu. There is a list of boarding houses and the distance between the user and the boarding house. In Figure 4.b is a detailed display of boarding house information. From the display above, there is the date and time, pictures of the boarding house, boarding house name, description,

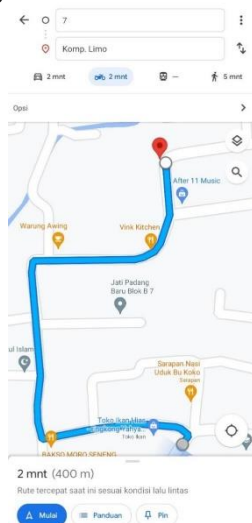
address, facilities, telephone, and boarding coordinates. There is an option to open maps to see the location of the boarding house and return to the previous menu. In Figure 4.c is the display for open maps. In Figure 35 previously there is an option to open maps, Figure 4.c explains the view of opening maps, there is a location for the boarding house and the route that the user will take to get to the desired boarding house. In Figure 4.d is a display of the application. In the application's main menu display (figure 4.d) there is a menu about the application, the application display contains the admin contact person for users to contribute by providing information about the Pasar Minggu boarding house that has not been registered in the application, and the purpose of the application.



(a) Display Menu Search for boarding houses



(b) Boarding Information Detail Display



(c) Maps page

## TENTANG APLIKASI

### Dari Kita Untuk Kita

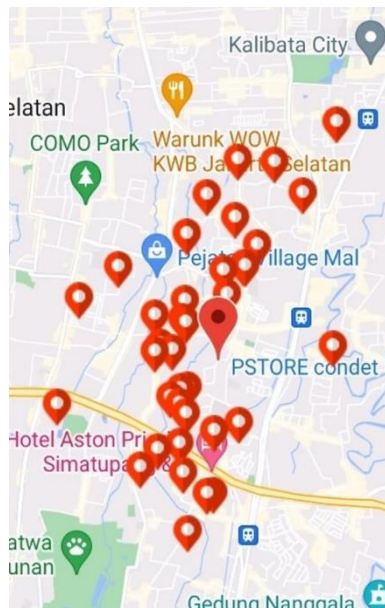
Yuk bantu berkontribusi dengan memberikan informasi mengenai pencarian tempat kost yang berada didaerah Pasar Minggu Jakarta Selatan dengan menghubungi Contact Person : Farhan Fauzan (0878-7666-6052)

### Persembahan

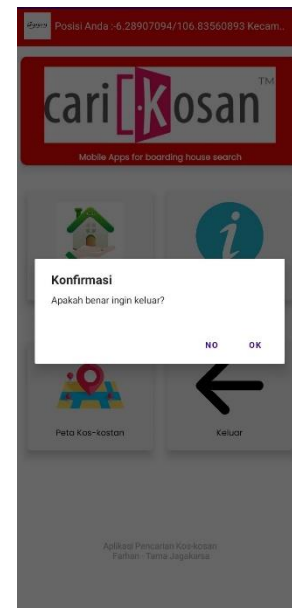
Adanya aplikasi ini sebagai salah satu syarat kelulusan pada Program Studi Strata Satu (S1) untuk Program Studi Teknik Informatika di Fakultas Teknik Universitas TAMA JAGAKARSA

(d) About Application

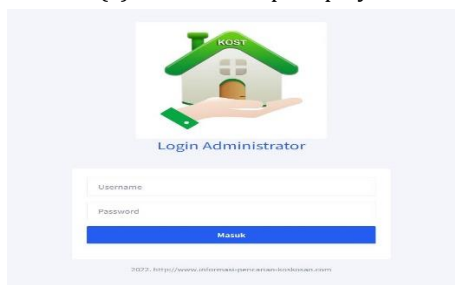
Figure 4. Application View



(a) Kos Area Map Display



(b) Exit Menu Display



(c) Administrator Login Page



(d) Admin Menu page

Figure 5. Advanced Application View

Can be seen in Figure 5.a above showing a map of boarding houses. The boarding house map contains the location points for boarding houses that have been registered on the application, and the user's position. Figure 5.b displays the exit menu from the application. There is an exit menu on the main display, if the user wants to logout or end the application. The following is the administrator's view of the Sunday Market boarding house search application. In Figure 5.c above is the administrator login display. To enter the admin system, a username and password login is required. Figure 5.d above is the main display of the boarding house search application administrator control panel. There is a Dashboard menu, Admin Data, boarding house Data, Map and Logout on the main view.

## 5 | CONCLUSIONS AND FUTURE WORK

The conclusion of this study is that an Android-based boarding house search application has been successfully developed. With this boarding house search application, it makes it easier for users to search for boarding houses according to their needs and this application can also provide information about boarding houses, boarding names, descriptions, full address, boarding facilities and about boarding house availability. So that it can give confidence to boarding house tenants before placing an order. This application also makes it easier for boarding house owners to publish their boarding houses which can help them increase their turnover or income, this application can also cut advertising costs for boarding house owners, with this application it speeds up and makes it easier for users to search for boarding houses, and this application can display the navigation route that will be passed by the user to get to the intended boarding location. This application system still has deficiencies, it requires development and suggestions from the author for application users in order to increase the performance of the application. In order to improve the boarding house search system, redevelopment is needed so that it can be reached in every area in South Jakarta and even the entire capital city of Jakarta. This boarding house search application system is for further system development, to provide boarding house reservation facilities via messenger so that it can provide convenience when searching for and ordering boarding houses, and can provide more and more complete image views.

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