

## Utilization Application Mobile for Speed Up Searching Boarding House Android Based

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### A B S T R A C T

Purwokerto is a city in Central Java Province. Purwokerto's development is currently relatively rapid, both in the economic and educational fields. There are many boarding houses for rent in the Purwokerto area, especially around campuses and business areas. However, the majority of boarding house owners still market their boarding places manually, such as putting up the words 'Accept Boarding House' in front of the house or by hiring a jockey. Along with current technological developments, especially in the smartphone sector, many applications have emerged that help users. To bridge the needs of users and boarding house providers, an application is needed that can display information on boarding houses in Purwokerto. The application was built on a mobile basis with the Android operating system for users who want to find a boarding house. Meanwhile, boarding house providers use a web-based system that can update boarding house advertisements. The method used in preparing this research uses the Waterfall model. The testing stage is carried out by conducting product tests. Product testing is carried out by testing the application using the reliability and attributes durability, conformance, serviceability, appearance and perceived quality. The Android-based boarding house information system in Purwokerto can help users or boarding house seekers to obtain information about boarding houses more quickly, so the user becomes more efficient in Look for the accommodation you want.

### INTRODUCTION

In the era of globalization, the need for information is very high, and the presentation of information is required to be fast and accurate. At this time, information is one of society's main needs in this modern era. One media that can be a facility for getting information quickly and accurately is the internet. The internet is a physical network connection of millions of computers using the same protocol for sharing/transmitting information. Apart from sharing/transmitting information, the internet is also used to connect two or more people online. The Internet allows free access to protocols from anywhere in the world and is able to accept all types of computers connected to the network [1,2,3,4]

Nowadays we have witnessed that the internet has made the lives of users became easier and started to connect separate services to be connected (eg: telecommunications, investment banking, pharmaceuticals, social interaction, education, entertainment) with devices (eg: computers, servers, smartphones, even electronic chips in households). The rapid development of mobile devices leads to the development of various mobile applications ranging from entertainment, education, health and business (Kim & Jung, 2014). Mobile phone manufacturers are taking advantage of this to compete to make very practical and flexible communication tools, namely smartphones. Especially on Android-based smartphones which are open source for developers to create or develop new applications. The existence of smartphones really helps users to get information and fulfill their various needs more quickly and easily, including looking for boarding houses [5,6,7,8].

A boarding house is a place that provides lodging services or temporary accommodation which consists of several rooms and each room has several facilities offered or provided and also has a price determined by the boarding house owner, while the length of rental period is determined by the room renter himself [9,10,11,12].

Purwokerto is a city in Central Java Province. Purwokerto has many established Universities / Colleges. Quality universities/colleges in Purwokerto include the Yos Sudarso College of Computer Science (STIKOM), Jendral Soedirman University (UNSOED), Purwokerto Muhammadiyah University (UMP) and many other universities/colleges. Apart from education, Purwokerto also has health facilities, adequate public facilities, and many companies which is established and growing. Many students/employees from outside the region/province live in Purwokerto to live their lives. Students/employees who search for boarding houses get information from friends or search directly, this becomes less effective and inefficient. Apart from that, budget, facilities and also the location of the boarding house are taken into consideration. On the other hand, boarding house owners have difficulty publishing rooms empty boarding houses, so this application can help boarding house owners in maximally publicizing their boarding rooms [13,14,15,16].

With the great enthusiasm of students/employees in looking for boarding houses, information about boarding house rental data is really needed in the form of photos of boarding houses, boarding house facilities, price lists for each boarding house being rented, as well as maps of boarding houses via Google Maps with the help of GPS. So need Android based boarding house search information system was built so that students or employees can find a boarding house that suits their wishes effectively and efficiently in the Purwokerto area [17,18,19,20].

## METHOD

In making this research, the author used several research methodologies with literature studies to develop this software, the author searched for literature or library sources related to the software to be created. Library sources This will help the writer in writing existing theories, and can be used as a comparison with research that has been made. Then use the observation method, which is used to collect data by conducting direct observations in the field, then systematically recording the objects. Observe all aspects in accordance with application creation needs. After observing and collecting data, a software development method will be carried out. The method used to create this project is the waterfall method [21,22,23,24].

The Waterfall SDLC model is a sequential software development process in where the progress of software development is like a stream flowing downwards (similar to a waterfall) through a list of stages that must be carried out to successfully build computer software. Initially, the waterfall model was proposed by Winston W. Royce in 1970 to describe software engineering practices. The Waterfall model defines several consecutive stages that must be completed one after another and moves to the next stage only when the previous phase has truly done. Figure 2 depicts the phases of the SDLC Waterfall Model [25,26,27,28].

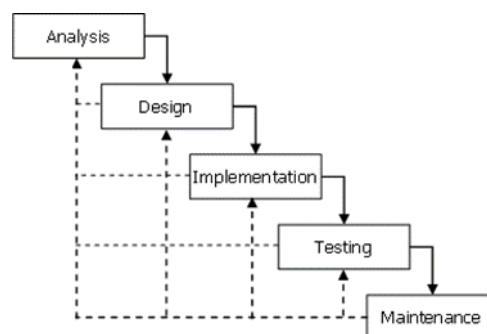


Figure 1. Model Waterfalls

At this analysis stage the author collects information and analyzes the system requirements to be worked on. The data collection process was carried out by means of interviews with boarding house owners and boarding house users. The design stage is processing information and analyzing system requirements, the results of the analysis are then created system design that will be used to overcome problems that arise. To describe what kind of system will be created, it is necessary to create a modeling design using UML ( Unified Modeling Language ) for Android applications which includes [29,30,31,32].

Use Case Diagrams and Sequence Diagrams , for web-based systems DFD ( Data Flow Diagram ) is used. The design of this system concept will be used as a guideline in the next process [33,34,35,36].

## RESULTS AND DISCUSSION

This GoletKost software runs via mobile device media on the Android platform with a minimum operating system requirement of Android 4.1 (Jelly Bean) to Android 6.0 (Marshmallow).

### *Page Home (Mobile)*

Figure 2 is the initial display when a general user opens the information application boarding house on Android. Here users can view or search for boarding house advertisements based on boarding house categories, boarding house areas and boarding house prices. In the top left corner there is a side menu which contains several menus and at the bottom there is a search menu based on area and price.



Figure 2. Page Home

### *Page Side Menu (Mobile)*

Figure 8 is a display of the menu page, this page displays several menus, namely the Golet boarding house menu is the home menu in this application, the General boarding house Golet menu is a boarding house search menu based on the general boarding house category, the Men's boarding house Golet menu is a boarding house search menu based on the men's boarding house category, the menu Golet boarding house for women is a search menu for boarding houses based on the category of boarding house for women, the Place an Advertisement menu is used to open the Purwokerto boarding house information system website, the About menu is used to display information about the application.

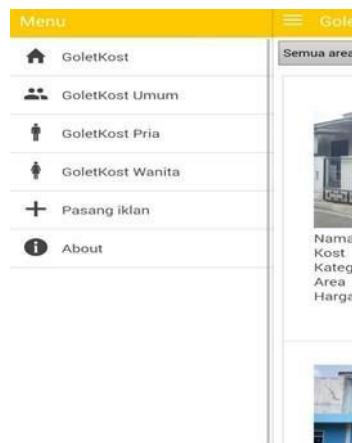


Figure 3. Page Side Menu

### ***Page Details Advertisement Boarding House (Mobile)***

Figure 4 is the display when the user selects the boarding house advertisement on the home page. This display contains a photo of the boarding house and complete boarding house information and is equipped with the location (maps) of the boarding house. The back button is used to return to the home page and the location button is used to open google app maps then displays the location of the boarding house.



Figure 4. Matter Indekos

### ***Page Google Maps Location Homestay (Mobile)***

Figure 5 is the display when the user presses the "Location" button on display details of boarding house advertisements. This Google Maps display shows the location of the selected boarding house and can help direct users to the boarding house they want. Users can activate route navigation by first activating GPS on the user's device.

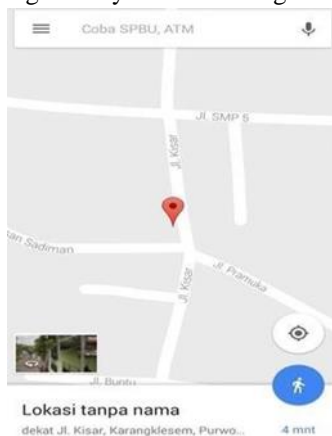


Figure 5. Page Google Maps Location Boarding House

### ***Page Menu Search Category and Price (Mobile)***

Figure 6 is a general boarding house page display, in this menu users can search by area or boarding house price. This search menu is also in the GoletKost menu for men and women. This search facility can make it easier for users to choose a boarding house based on price or area.

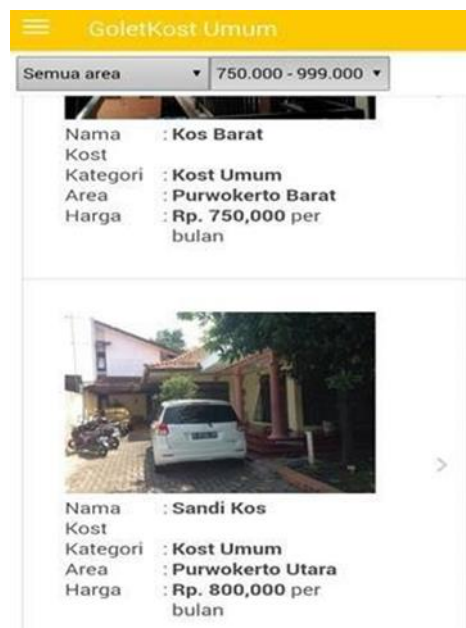


Figure 6. Menu Page Golet Kost General (Mobile)

### ***Page Home Page Users General (Web)***

Figure 7 is the first display when the user opens the Purwokerto boarding house information web. On this page there is information about boarding house advertisements and several menus, namely the home menu is used to return to the main page, the login menu is used to enter the member page (boarding house owner) or the admin page, the register menu is used to register as a member (boarding house owner), menu about us used to display information about the boarding house information system web purwokerto, menu Our contact is used to display information about the web owner. On this page there is also a search facility, namely boarding house search, used to select a boarding house category desired (Male/Female/General), area search, used to select the desired boarding house area (North/South Purwokerto/East/West), price search used to select the desired boarding house price range . To place a boarding house advertisement, you must be registered as a member first. After becoming a member, users can place advertisements and update their boarding house advertisements. The admin also has the right to add members and add boarding house advertisements, apart from that the admin can also print member and advertisement data reports.



$$RNU6A = \text{mean } (O+R+C+S+A+Q) \quad RNU6A = 8.91+8.75+8.91+8.13+7.97+8.28 = 50.9375$$

After RNU6A is known furthermore is look for mark from NUP that is with Product Test

$$\text{Value method} = (RNU6A / N \text{ Max } 6A) \times 100$$

$$\text{Product Test Values} = (50.9375 / 60) \times 100 = 84.8958$$

Table 2. Mark Product Test

	N	Minimum	Maximum	Mean	Std.Deviation
RNU6A	32	45.00	55.00	50.9375	2.67531
NUP	32	75.00	91.67	84.8958	4.45884
Valid N (listwise)	32				

The Product Test Value Limit (NUP) in this study is 70. If the  $NUP \geq 70$  then the product quality is declared good and suitable for use by general public, but if  $NUP < 70$  then the product is declared unfit for use and must be reviewed (Faqih, 2015). In the table above you can see the average value of NUP, namely 84.8958, which means that the NUP value is  $\geq 70$ , so the product quality can be declared good and suitable for use. Apart from product testing, a benefits test was also carried out on 12 boarding house owners and 20 boarding house users. The benefits test was carried out by distributing questionnaires. Some items are measured using ISO standards 9126, with the characteristics of usability, convenience, efficiency and accuracy.

Table 3. Table Test Frequency Benefit

Variable	Criteria	Question			Average
		1	2	3	
Utility	S	50.0	46.9	53.1	94.8
	SS	37.5	53.1	53.1	
Convenience	SS	53.1	46.9	40.6	94.8
	Total	90.6	100	93.7	
	S	53.1	53.1	53.1	
Efficiency	SS	40.6	46.9	40.6	95.8
	Total	93.7	100	93.7	
	S	53.1	46.9	46.9	
Accuracy	S	53.1	46.9	46.9	93.8

Table 3 shows the value of system benefits taken from the questionnaire answered by respondents. The results of the benefits test that was carried out to determine the benefits of the system for its users also produced good scores, namely: Usability = 94.8%, Convenience = 94.8%, Efficiency = 95.8% and Accuracy = 93.8%. From the results of the benefits test, it can be said that the system is felt to be useful and useful for users who want to search for or view boarding houses in Purwokerto.

## CONCLUSION

Based on the results of research conducted using product testing, it can be concluded that the Android-based boarding house information system to speed up the search for boarding houses in Purwokerto has good product quality and is suitable for use by the general public and is also very useful for boarding house users who want to search for or view boarding houses. in Purwokerto. Further development of this application, for example, boarding house owners can update

their boarding house information or place boarding house advertisements on the Android application and search for boarding houses can use the radius of the user's position.

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