

Application of Boarding House Rental Location Search System Based on Android

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Abstract

Boarding houses have become a fairly important need for many people, especially for students studying outside the area who choose boarding houses as temporary housing, and students whose homes may be quite far from the campus, who rent boarding houses near their campus so as not to spend a lot of energy and time traveling. The boarding house route search information system has benefits for users who will search for the nearest boarding house from various features, such as finding boarding house routes and viewing detailed boarding house information. ease of boarding house owners to manage data allows information to be continuously updated. This study aims to create an Android-based boarding house location information system. The research stage starts from the design of a system that has been built using a Use Case Diagram that has three actors, including the admin, the boarding house owner, and the tenant/user. Each of these actors has different roles and access rights. At the implementation stage of the system creation process, using the Android Studio application, the system is tested using the Black Box method. Based on the results of system tests that have been carried out, obtaining good results, or in other words, the system can run as expected.

Keywords: Boarding House; Location Search; Boarding House Rental; Android

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Introduction

We can see that technology is developing very rapidly, and it is these challenges that encourage various studies and research to always want to develop and find new methods that offer greater benefits in helping people track their activities more easily (Aman et al., 2022). In the field of information technology, in a world that is currently changing very fast, the world of learning always revolves around the attention and use of technology, and the speed of access to information in this increasingly popular world of learning technology is developing rapidly (Iskandar et al., 2022).

Many people have used the internet in their lives. The internet makes human problems easier. The existing application is not only easy to use, but can help internet users in getting the desired data or information (Kunal et al., 2019). This information certainly varies, one of which is for students who will conduct comparative studies or study in a place that may be far from where they lived before (Szymkowiak et al., 2021). Therefore, at this stage, students need to immediately find a flat that they can use as a temporary residence until the end of their studies.

A boarding house is a service that offers a place or a kind of rental room for a certain time by agreement of the tenant and the owner of the boarding house, at a price that has been agreed upon by both (Pradana et al., 2019). Among the community, boarding houses are a necessity that is quite important for many people, especially for students studying outside the area who choose boarding houses as temporary housing, and students who may have their homes located quite far from the campus, who rent boarding houses near campus so as not to use a lot of energy and time on the road (Szymkowiak et al., 2021). The availability of boarding house information is still lacking, making prospective boarding house tenants lose their direction when searching for routes.

Similar research on boarding house information systems has been carried out by (Widiastuti et al., 2021) the results of the research design are based on the facilities needed by boarding house seekers and boarding house managers, for

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example, as a list of boarding houses around SCU which is equipped with detailed information on the description of boarding houses, types of boarding houses, mobile phone numbers of boarding house owners, prices per room, facilities, locations, and pictures as clues for boarding house seekers to book boarding house rooms. Further research by (Yudha Dwi et al., 2021) made a prototype application for searching and ordering boarding houses in Telang to make it easier for boarding house seekers to find information related to boarding houses that match what they want without having to visit the place one by one. As for the owner of the boarding house, it helps to recommend the boarding house. Research by (Abella et al., 2017) Boards Me App is a mobile application that helps users find nearby boarding houses available in Sampaloc, Manila. The only application that serves boarding house locators for users to search all nearby dormitories using the Global Positioning System or GPS, displaying their geographical information, and showing available facilities and services such as bathrooms, and gender-only rooms.

Based on this, the researcher discussed the topic of an Android-Based Boarding House Rental Location Search System Application. The results of this study are expected to make it easier for tenants to find the location of boarding houses and expected facilities and see detailed information on the boarding houses to be occupied. In addition, it also makes it easier for boarding house owners to provide updated information about the facilities in their boarding houses.

Method

The system development method used is Agile type Extreme Programming, which has 4 stages (Awaliah et al., 2022), the first stage is to conduct a research plan by collecting data on system needs in the boarding house application that will be made later. Then do the system design using the Use Case Diagram, then the coding process or the system implementation stage from the description of the system design that has been designed. At the last stage conduct testing of the system using the BlackBox method.

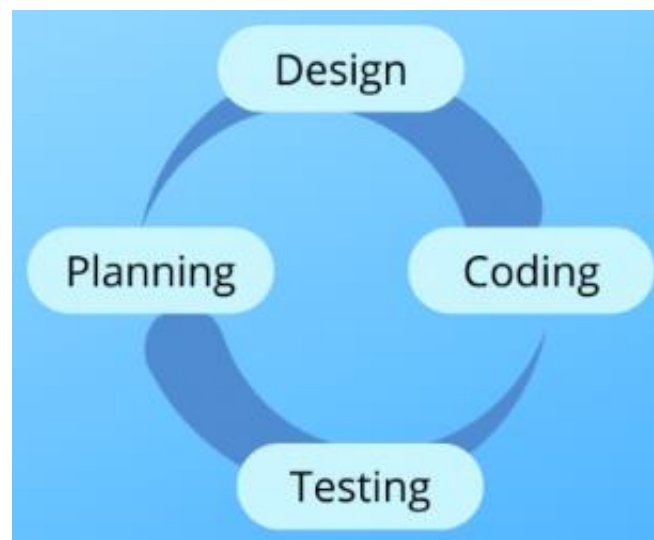


Figure 1. Extreme Programming

Planning Application working concept

Stages of concept planning, namely defining the application work plan following the objectives of application development. Before continuing the discussion further, there are several things to know about the application being designed, namely: (a) This application is mobile which means that this location search application can be used anytime and anywhere when needed. It has to do with the application implementation platform, or rather the smartphone. (b) The application is accompanied by the coordinates of the location of the boarding house so that the user can see the location of the boarding house that is close to each other. (c) Users only need to have an application, then can use the application using a GPS internet connection, which can then search for the location of the nearest boarding house or based on the selected category, based on the location or address of the nearest boarding house in the Makassar area.

System Design

Our system design uses a Use Case Diagram, which describes the sequence of interactions between one or more actors and the system. The projected use case is a diagram of the use case for access via an Android device. This use case diagram is used to illustrate what a user can do in a running system. The use case diagram in figure 2 illustrates the user's interaction with the system. An actor can pass input information to the system, receive information from the system, or do both, by giving and receiving information about the system. This application is used by 3 actors, namely: Admin, Boarding House Owner, and Tenant/User).

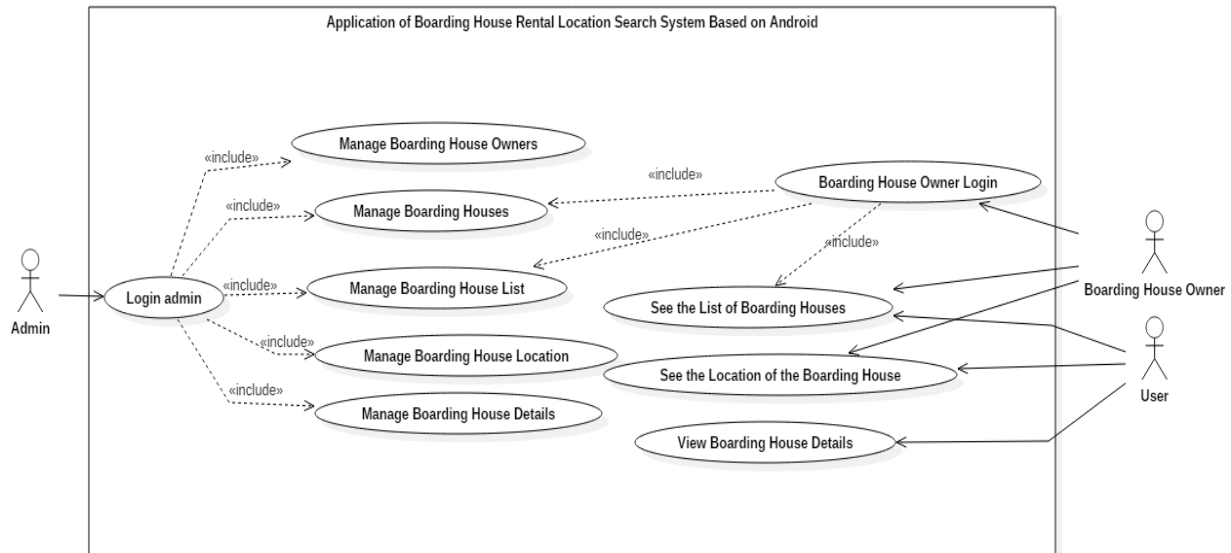


Figure 2. Use Case Diagram

The first user, namely Admin, an admin must first log in, then can do several activities, namely:

1. Sign in to the app
2. Can manage cost owners
3. Can manage costs such as viewing and deleting boarding house data
4. Can add, edit, or delete the location of the boarding house
5. Can see and delete boarding house details
6. Can see the location of the boarding house

The second user, namely the owner of the boarding house, just like the admin, must first log in to be able to access the application, then can do several activities, namely:

1. Sign in to the app
2. Can add, edit, and delete boarding house data
3. Can manage boarding house details, add, edit, and delete
4. Can see the list of boarding houses

The third user, namely the tenant or user, must first have this boarding house search application, then can perform several activities, namely:

1. Sign in to the app
2. Can see the list of boarding houses
3. Can see the location of the boarding house
4. Can see the details of the boarding house

Results and Discussion

Result

The implementation results of coding the Android Studio application describe the system as a whole on the Android-Based Boarding House Rental Location Home Search Information System, starting from the Application Logo and Splash Screen, Login Page, Application Home Menu Display, Boarding House List Page containing information on Boarding House-boarding House List, Displaying Boarding House Detail Page, and Find Route Feature Menu. Figure 3 shows a splash screen page.



Figure 3. App Splash Screen

Design of login and registration forms (user). The design of the login form is a prerequisite for access to the application page. The admin or restaurant owner will be asked to enter a username and password to access the main menu of the application. Before logging in, the user must first register with the application user's e-mail data and then save it in the database. The design of the user login form is shown in figure 4.

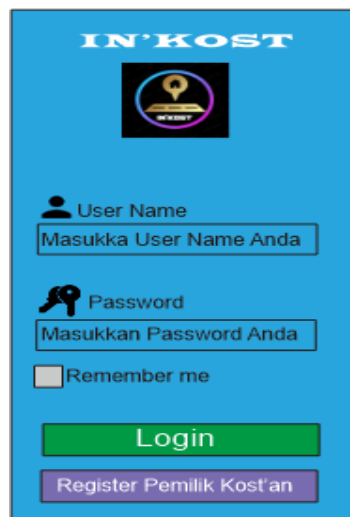


Figure 4. Login Page

Figure 5 shows the Boarding House Home Page. This page contains information about the direction of the boarding house location, User Profile, About Boarding House, and Map View in the header. Users can also directly search for boarding houses and obtain information about them by clicking on the marker icon on the map and looking at the route to the boarding house.

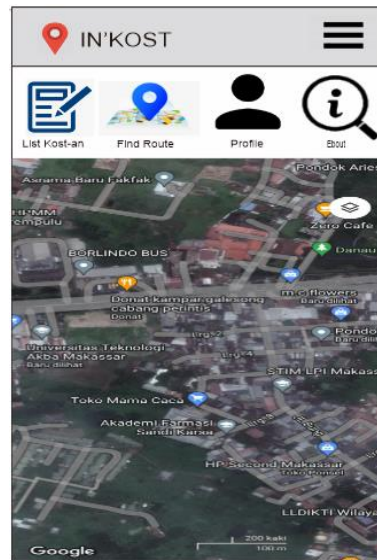


Figure 5. Boarding House Home Page

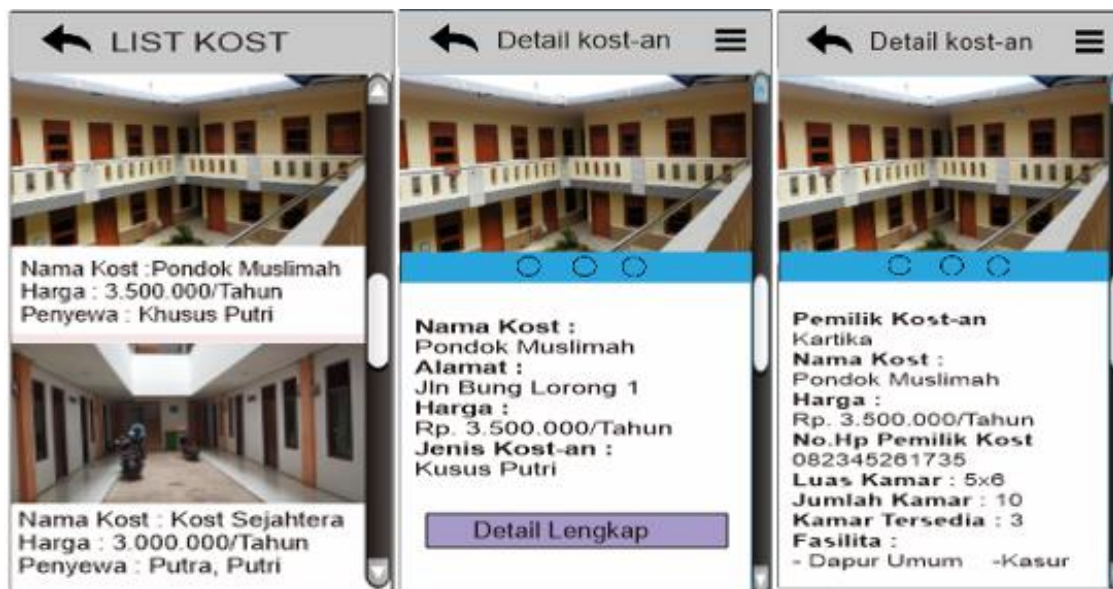


Figure 6. Boarding House List Page and Boarding House Details

The boarding house list menu displays a list of boarding houses that a tenant is looking for around Universitas Teknologi Akba Makassar (UNITAMA), where tenants can directly click the boarding house list button. Then this page displays the details of a boarding house that you want to know information about, besides making it easier for users to directly review the route of the location of the boarding house that the user wants. The image below is the boarding house detail page.



Figure 7. Find Route Menu Page

Figure 7 shows a list of boarding houses with descriptions of Boarding House Names, Prices, and Tenants. The Find Route page provides a button for the route of the boarding house to be addressed. This will make it easier for users to find locations. Users can adjust prices as needed, see boarding house facilities, and see the types of tenants. All of this information can be obtained directly from the application without having to go to the boarding house.

System Testing

Test the system by running the system that has been created using the Blackbox testing method. Blackbox testing itself is a software testing method that focuses more on the output results of applications that have been made. The following are the results of testing the "Android-based boarding house rental location search system application" as follows:

Table 1. Functional Testing

Page Functional Testing	Expected results	Test Results
Login Page	The Login page can be accessed	Succeed
Main Menu Page	The Main Page is accessible	Succeed
Admin Page	The Admin page can be accessed	Succeed
Boarding House Owner's Page	The boarding house page can be accessed	Succeed
Tenant/User Page	The Tenant/User page can be accessed	Succeed

Discussion

The boarding house route search information system has benefits for users who will search for the nearest boarding house from various features such as finding boarding house routes and viewing detailed boarding house information (Effendy et al., 2020). The ease of boarding house owners managing data allows information to be continuously updated (Mubita et al., 2022). Applications implemented on the operating system will certainly be able to make it easier for users to the operating process and can be adjusted to the needs of its users (Arridha et al., 2022).

Conclusions and Suggestions

Conclusions

The system design that has been built using the Use Case Diagram has three actors including admin, boarding house owner, and tenant/user. Each of these actors has different roles and access rights. At the implementation stage of the system creation process using the android studio application, then the system is tested using the BlackBox method. Based on the results of system testing that has been carried out, it obtains good results or in other words, the system can run as expected.

Suggestions

The Boarding House Route Search Information System can be developed again with additional features such as chat features that will make it easier for users to communicate with each other. Then the information feature on the number of tenants that have been filled will also help users see a list of boarding houses that have been filled or have not been filled. Information systems, especially boarding house route searches, can also be integrated with related parties such as the government for ease of data collection, especially boarding houses that operate.

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