

DEVELOPMENT OF ID CARD SCANNER APPLICATION FOR PURI TOMAT HOTEL USING ANDROID-BASED SDK BLINKID

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ABSTRACT

This study aims to build an application so that it can help hotel receptionists in terms of checking available rooms and checking-in and checking out. In other cases the application built aims to help the receptionist to input guest data to be faster and when the reservation process is carried out the application simplifies the process. In the study carried out descriptively, with the aim to present a complete picture of things that are treated at the time of problem formulation, data collection and system design. In designing the system here uses BlinkID technology to speed up the check-in process when the receptionist inputs guest data. Testing in this research application that has been made will be carried out blackbox testing and beta testing. In testing the application blackbox will be tested in each process, and in beta testing the application will be tested by the end user, namely the hotel receptionist. In order to fit the purpose of the opinion given by the receptionist by means of a questionnaire, conclusions will be obtained after using this application. The test results show, in terms of the processes in the application included in the good category, because each process runs well and in beta testing is also included in the good category, because the hotel gives a good opinion of the application that has been made that can help and accelerate the performance of the hotel receptionist.

Keywords: Blink ID, MidTrans, Hotel, Receptionist, Android

1. INTRODUCTION

Puri Tomat Hotel is wrong one accommodation business that provides lodging services, laundry, café and other facilities. The services provided are intended for general citizens, both those who will stay at the hotel and those who only enjoy other facilities. Puri Tomat Hotel is located in Bandung city area which is located on the street Ir.H.Juanda no 240 Bandung. Puri Tomat Hotel has several types of rooms, namely: Cemara, Tanjung, Flamboyan, and Pinus. The current room capacity is 36 rooms. The rooms have different facilities and prices. From interviews conducted with hotel reception

staff, during the holiday season such as national holidays, school holidays, and weekends often experience difficulties in checking available rooms, check-in, check-out, and reservations because the process is still not computerized or still inputting guest data into the book. When checking empty rooms, the receptionist still has to find a place that records all available cards at the hotel, this results in the hotel receptionist having difficulty in finding available rooms and requiring 4 to 5 minutes upon check-in, the receptionist will provide the form the guest must be filled in the form of identity data from the room / guest ordering. then after the form is filled, the receptionist will enter the data into the guest book, this often causes an error in recording guest data because the guest writing is different and sometimes difficult to read and requires approximately 6 to 7 minutes. During check-out, guests who have been given a previous receipt by the receptionist will be returned to calculate the total transactions made while renting a hotel room. Often times the receipts given to guests are lost, this results in the receptionist having difficulty in recording the transactions that have been carried out by the guest, because the receptionist must write back and ask guests about any transactions made by hotel guests. To rent a guest room you can make a reservation via telephone, and also from applications such as traveloka, pegipegi, and others. But to make a reservation the receptionist is still writing the tenant's data on a reservation receipt. When a guest who has made a reservation arrives, the receptionist will look for receipts that have been previously noted. This resulted in the receptionist having difficulty finding data on guests who had made reservations. Therefore, based on the above problems an application is needed that can facilitate the hotel receptionist during the room booking process, the check-in and check-out

process, and the hotel recommends an application made based on Android.

2. REVIEW OF REFERENCE

2.1. Hotel

Literally, the word Hotel used to come from the word Hospitium (Latin), meaning the living room. In the long term the hospitium word has undergone a process of change of understanding and to distinguish between Guest Houses and Mansion Houses that developed at that time, then large houses were called Hostels. According to Webster, a hotel is a building or an institution that provides rooms to stay, eat and drink and other services for the public. [4]

2.2. Android

Android is an open source candidate-based operating system based on Linux, designed for cellular layer devices such as smart phones and tablet computers. Android was originally developed by Andoird, Inc., with financial support provided from Google. This operating system was officially released in 2007, along with the establishment of Open Handset Alliance, the consortium. Android has an OS that is very good and powerful and has an intuitive user interface that is packaged with choice and flexibility. [18]

2.3. MongoDB

MongoDB (from humongous) is an open source document oriented database system developed and supported by MongoDB Inc. (previously 10 genes). This is part of the NoSQL database system family. Instead of storing data in a table like it does in a "classic" relational database, MongoDB stores structured data as a JSON-like document with a dynamic scheme (MongoDB calls the BSON format), making data integration in certain types of applications easier and faster.

2.4. BlinkID SDK

BlinkID SDK is the SDK used to scan various ID cards. Simply integrate the SDK into the application and can use the scanning features for various ID cards. The ID card that can be used is an ID card containing MRZ (Machine Readable Zone), such as ID and Passport. ID card scanning is enabled with a special OCR templete. To use BlinkID requires Android with version 4.1 as the minimum Android version. For the best performance and compatibility. Using BlinkID in your application requires a valid license. You can get a trial license by registering with the Microblink dashboard. After registering, you will be able to generate a license for your application. Licenses are bound

by the name of your application package, so make sure you enter the correct package name when asked.

2.5. Google Cloud Platform (GCP)

The Google Cloud Platform, offered by Google, is a series of cloud computing services that run on the same infrastructure that Google uses internally for end-user products, such as Google Search and YouTube. Along with a set of management tools, it provides a series of modular cloud services including computing, data storage, data analysis, and machine learning. Registration requires a credit card or bank account details. Google Cloud Platform provides infrastructure as a service, platform as a service, and computing environment without a server. The Google Cloud Platform is part of the Google Cloud, which includes the Google Cloud Platform public cloud infrastructure, as well as G Suite, the enterprise version of Android and Chrome OS, and an application programming interface (API) for machine learning and mapping of service companies. [12]

2.6. Midtrans API

Midtrans API is a channel that accepts highly vicarious payments such as: credit or debit cards, BCA KlikPay, CIMB Clicks, XL Tunai, Mandiri Clickpay, T-Cash, ordinary bank transfers, minimarkets that are already integrated through VT Link, VT Web, VT Direc.

Midtrans is easy to integrate across multiple platforms, can monitor transactions in real-time and get overall transaction reports for users



Figure 1. How the Midtrans Transaction works

3. Research Methods

The method used to assist in writing this final assignment is a descriptive method, where the descriptive method describes in full the things needed, [1] while the research flow is carried out as shown below:

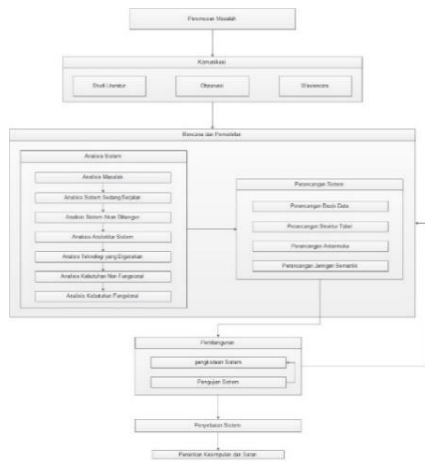


Figure 2. Flow of Research Framework

3.1. Method of collecting data

The data collection techniques used are literature studies and field studies. The study of literature is done by collecting data through internet sites, books, journals that are closely related to the theme of the final assignment. Field studies were conducted in 2 ways, namely by observation and interviews, observations were made by making observations directly to the Puri Tomat Hotel while the interviews were conducted by conducting interviews with one of the reception staff.

3.2. Software Development Method

The method used in the development of soft devices is the Pressman waterfall method. Here is a picture of the waterfall pressman modeling:

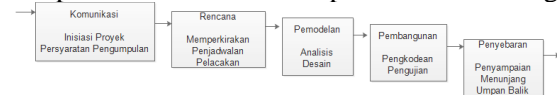


Figure 3. Waterfall Pressman

1. Communication

The communication phase is the stage of analyzing the requirements for the system to be built and the stage where data collection is conducted by meeting with the hotel, as well as collecting additional data both in journals, articles, and from the internet.

2. Plan

This stage is the advanced stage of the communication process. This stage will produce a user requirement document or data that can be related to the wishes of users in software development, including plans to be carried out.

3. Modeling

In this modeling stage, you will translate requirements into a software design that can be estimated before the coding process. This process focuses on data structure design, software architecture, interface representation,

and procedural details. This stage will produce a document called software requirements.

4. Development

This stage is the coding phase, which is the stage of translating designs in languages that are recognized by computers. The programmer will translate the transaction requested by the user. This stage is a real step in working on a software, meaning that the use of computers will be maximized at this stage. After the coding is complete, testing of the system has been done. The purpose of testing is to find errors in the system and then repair them.

5. Spread

This stage can be said to be final in making a system. After doing analysis, design and coding, the system that has been created will be used by the user. Then the software that has been built must be regularly maintained. [2]

3.3. Implementation and Testing

The method for implementation and testing uses alpha testing namely blackbox and beta testing. Blackbox-based-in-detail testing-application for application-alignment with user-requested-on-the-application processes to evaluate application-made errors. Beta testing is the stage - where users try applications that have been made to find any flaws or problems - from the end-user-perspective.

3.4. Withdraw Conclusions and Suggestions

Conclusions drawn to the user's suggestions for the Long term use of the app.

4. Results and Discussion

This stage consists of an overview of a system, analysis and system design. The final step is to do the testing so that conclusions can be drawn. This stage consists of a general description of the system, analysis and system design described in the form of system architecture. Technology implementation, which consists of analysis of BlinkID and MidTrans technology. The last step is to do a test of the system and conclusions and suggestions can be obtained that can be developed in the application to be better than the previous application.

4.1. System Analysis and Design

Architectural analysis aims to identify the system architecture to be built. Next is the system architecture used in the construction of this application.

SS	S	RR	TS	STS
3	2	0	0	0
Rata-Rata = $(21/(5 \times 5)) \times 100\% = 84\%$				
Apakah aplikasi ini mudah untuk digunakan?				
SS	S	RR	TS	STS
3	2	0	0	0
Rata-Rata = $(22/(5 \times 5)) \times 100\% = 88\%$				

5. Conclusions and Suggestions

The conclusions and suggestions obtained from the results of this study are:

5.1. Conclusion

Based on the results of tests and questionnaires that have been distributed to users, conclusions that have been obtained are: application can help in providing information on available rooms, and help speed up the process of check-in and check-out. The application is enough to help guest data inputting process and the application can help in providing information on tenants who have made room reservations.

5.2. Suggestion

In the testing process users feel things that can still be improved in applications that have been built. The suggestions for application development are as follows:

1. This system can be further developed by using other scanning technologies such as TopOCR
2. This system can use other payment gateway technologies such as FinPay
3. Development of applications for guests, where guests can choose rooms and input guest data.
4. Application development can be done on other platforms.

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