# *DEVELOPMENT OF VIRTUAL TOUR HOTEL APPLICATIONS AS A PROMOTIONAL MEDIA AND MEETING ROOM RESERVATION IN HOTEL TRAVELLO BANDUNG*

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**ABSTRACT**

Travello Hotel is located in setiabudhi area, more precisely on Setiabudhi street No.268 Bandung. In this hotel there are 3 types of rooms, 8 types of meeting rooms, Business Center, excecutive lounge, restaurant, swimming pool, Spa and Caffe. For promotion, Travello hotel has website and mobile app. However promotion for their facility is not good enough. Like meeting room which is a hotel facility for the public, with the type of room and package and the needs of clients who will rent. Booking for meeting room itself is not included into the hotel account because the wishes of the hotel that has a wishes will adapted to the wishes of the client. The purpose of this application development itself for assist Sales and admin in promoting to the client with virtual tour promotion media hotel and to help admins in recording reservations with the depiction of meetingroom using virtual3D which is in the usual application submitted by the hotel. From the results of testing conclusions that can be taken on this research is this application can assist the sales in promotion and reservation meeting room at travello hotel with visual depiction of the hotel in the form of virtual 3d and 360 plus reservation meeting room that can be directly done by online sales that make the effectivity of time without worrying about double booking again

Keywords: virtual tour, meetingroom, virtual 3D

## 1. INTRODUCTION

Travello Hotel is located in setiabudhi area, more precisely on Setiabudhi street No.268 Bandung. Travello Hotel in Bandung is a hotel chain of hotels Travello Manado, Travello Hotel Bandung itself was established in May 2015 while in Manado Travello Hotel stands 7 years earlier. In the hotel there are 3 types of rooms, 8 types of meeting rooms, Business Center, excecutive lounge, restaurant, swimming pool, spa, and Caffe.

For sale hotel, Travello own personal websites and mobile applications. In both accounts the description and booking of rooms are available, some of the photos for hotel facilities already exist, just booking a meeting room, the meeting room package details or restaurant is not yet available. This is in accordance with the results of interviews. Pak Hendry as IT Manager Hotel Travello said despite having had two accounts a hotel as a media campaign, but the sales explained that both accounts are still deemed less and not optimal this can be seen from the persistence of the telephone of the client who will stay ask about the facilities at the hotel have. Although in both of these accounts have a photo that is expected to describe the state of the rooms and other hotel facilities, but in fact the photo is a 2-dimensional images sometimes still confuse the client and ultimately they still make booking rooms via telephone. So the usefulness of both accounts so it looks less effective. In addition to the rooms, other facilities that can be in the lease is the meeting room, the meeting room itself not only be leased for office use such as training, but this meeting room can be used for party purposes, and others. But the promotion done for this meeting room only in the form of print media, while at the hotel only two accounts is no explanation in the form of images, without explanation as well as for booking is through sales or via telephone. At the time of the interview from the sales representative to explain why booking for the meeting room itself is not incorporated into the hotel account? That is because, in order that an agreement between the tenant and the tenant can suit both the space which will be leased, the package is adopted, the number of participants, whether there are additional to certain parts and others. The agreement took place with an explanation of the use of brochures as handle sales and sales descriptions as the elaboration of each package and the details of the room to the meeting room. However, after the explanation, depiction and detailed agreement, there are still sometimes mistakes happen. Just before the closing months of meeting space rental will be solid up double booking can sometimes occur. Talk to the client and move one client into a very unfortunate way to happen. Such errors can occur due to manual recording that does not allow for a warning to double booking a meeting room of this happening. Admin itself here is a hotel receptionist. In addition, the translation is based on the view taken sales brochure that sometimes less can be understood by the client. At least there will be more than one client a year felt there should be a representative of those who came

to take the survey. It is also very unfortunate from the hotel because there are many of them who have to commute from out of town just to reviewing the room what they want to do training or else. Such errors can occur due to manual recording that does not allow for a warning to double booking a meeting room of this happening. Admin itself here is a hotel receptionist. In addition, the translation is based on the view taken sales brochure that sometimes less can be understood by the client. At least there will be more than one client a year felt there should be a representative of those who came to take the survey. It is also very unfortunate from the hotel because there are many of them who have to commute from out of town just to reviewing the room what they want to do training or else. Such errors can occur due to manual recording that does not allow for a warning to double booking a meeting room of this happening. Admin itself here is a hotel receptionist. In addition, the translation is based on the view taken sales brochure that sometimes less can be understood by the client. At least there will be more than one client a year felt there should be a representative of those who came to take the survey. It is also very unfortunate from the hotel because there are many of them who have to commute from out of town just to reviewing the room what they want to do training or else. translation based on the display which brought sales brochure sometimes less can be understood by the client. At least there will be more than one client a year felt there should be a representative of those who came to take the survey. It is also very unfortunate from the hotel because there are many of them who have to commute from out of town just to reviewing the room what they want to do training or else. translation based on the display which brought sales brochure sometimes less can be understood by the client. At least there will be more than one client a year felt there should be a representative of those who came to take the survey. It is also very unfortunate from the hotel because there are many of them who have to commute from out of town just to reviewing the room what they want to do training or else.

From these explanations, to address the problems outlined then offered a solution in the form of Application Development for Virtual Tour and Meeting Room Reservations application. With this application is expectedmay specify with good facilities. So in this thesis the author will build an application that is: "Virtual Tour Hotel As Media Promotion And Reserve Meeting Room At Hotel Travello Bandung" .Sedangkan objectives to be achieved in this study are:

a. To assist Sales and admin in the promotion to a prospective client with virtual promotional media tour hotel that will be included in the website as well as in mobile applications commonly owned hotels as well as a mobile application that brought sales

b. To assist administrators in the recording reservation digunakkan metting room either for the sake of the office and other events as fiancée, anniversary or marriage in accordance Package taken.

# 2. CONTENT RESEARCH

## 2.1 Theoretical basis

Facts on the ground are the basis of the theoretical basis that will be used as a guide in order to focus on doing research.

### 2.1.1 Virtual Reality

Virtual Reality (VR) or the virtual reality is a technology that allows users to interact with an environment simulated by the concept of VR used to design and create products of software to be used by the help of some computer systems multimedia system with a special device. [1 ] Virtual reality systems can be divided into several, namely Immersive VR, VR simulation, Teleplesence VR, Augmented Reality VR, VR Desktop.

### 2.1.2 Luther Sutopo Method

Multimedia development is based on six stages, namely the concept, design, material collecting, assembly, testing, and distribution. Here is a picture of a method luther Sutopo.

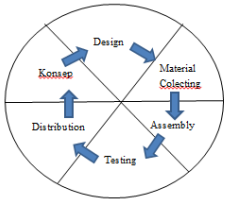



Figure 2. 1Luther-Sutopo multimedia development
Explanations of each stage are as follows:

1. *Concept*

Stage concept is to set goals, including the identification of audiences, applications, application purpose and general specifications.

2. *Design*

Stage design is to make the detailed specification of the project architecture, style, and material needs for the project.

3. *Collecting material*

*material Collection*can be done in parallel with the assembly stage. At this stage of collecting material such as images, animation, audio, following the making of images, audio and others.

4. *assembly*

Assembly stage is the stage where all the multimedia objects created.

5. *testing*

Phase testing is performed after completion of the manufacture and all data has been entered.

6. *distribution*

When multimedia applications to be used with different machines, using a CD-ROM duplication, or distribution network is very necessary

### 2.1.3 Definition of PHP

Server Side programming language designed specifically for Web applications are added

to HTML is a notion of PHP (Personal Home Page). The execution of the script will be done on the server is a server side properties, which means new processed products sent to the browser. The advantage of it is a server side include:

1. Browser compatibility is not required or must use a certain browser, because the server is the one who will work on your PHP scripts.
2. Can utilize the resources that are owned by the server application, such as connecting to the database.
3. Scripts can not "spy" by using the facilities view the html source. [2]

PHP is designed specifically to create dynamic web meaning that it can form a view based on current demand. At this time PHP is quite popular as a device for web programming because it can function on servers based unix, linux, windows and macintosh and to try these things we do not need to use a computer class servers, simply by an ordinary computer we are biased to learn and practice PHP.

### 2.1.4 Definition of MySQL

*MySQL* is an implementation of relational database management system (*RDBMS*) Which is distributed for free under GPL license(General Public License). SQL is a conceptthe operation of the database, especially for the election or selection and data entry, which allows the operation of the data is automatically done easily. [3]

### 2.1.5 Definition of XAMPP

XAMPP is one of the installation package of Apache, PHP and MySQL instant that we can use to help the installation process three products. MyAdmin. XAMPP is a tool that provides software packages into one package. By installing XAMPP then no longer need to perform the installation and configuration of Apache web server, PHP and MySQL manually. XAMPP will install and configure automatically for you or auto configuration. [4]

### 2.1.6 Android

Android is an operating system for mobile phones based on Linux. Android provides an open platform for developers to create their own applications for use by a variety of mobile devices. To develop Android, formed the Open Handset Alliance, a consortium of 34 companies for hardware, software, and telecommunications, including Google, HTC, Intel, Motorola, Qualcomm, T-Mobile, and Nvidia. [5]

### 2.1.7 Unity

Unity 3D is a game engine based cross-platform. Unity can be used to create a game that can be used on computers, smart phones Android, iPhone, PS3, and even X-BOX. Unity3D supports Scripting (programming) using a variety of programming languages such as C #, JavaScript (UnityScript), and BOO Script. If previously we have a code C # that is important, we can use it in Unity with ease.

### 2.1.8 SketchUp

SketchUp(Formerly known as Google Sketchup) is a 3D modeling computer program to draw a wide range of applications such as architecture, interior design, civil and mechanical engineering, movies, and video game design and is available in a freeware version and paid.According to Trimble, the 3D Warehouse is the most popular 3D content sites on the web. Sketchup designers can visit the 3D Warehouse to find new products or for inspiration when designing their own.

Statistics relating to the 3D Warehouse:

1. There are more than 2.2 million 3D models for download
2. In 2015, the website had 1.7 billion page views
3. The average duration of global and site visits 11min 38 sec
4. This site has 7.7 million monthly visits
5. This site has 23 million monthly searches.

## 2.2 Analysis System

Decomposition of a whole system into its component parts intended to identify and evaluate the problems, opportunities, barriers that occur with the expected needs so that it can be proposed perbaikanya is daar understanding of system analysis.

### 2.2.1 Analysis of the Problem

The process of identification and evaluation of the application system is being built starting from the analysis of the existing problems. Analysis of the problem of the system that is currently running at Travello Hotel Bandung is:

1. Part Sales Director conclusions of the report are given a sales pitch that the use of 2-dimensional images on two existing application is said to be less effective because it can not describe kesuluruhan facility owned hotel in detail, so there are many reports of telephone of a client who asked about the hotel facilities good in-room and public admin.
2. Description of sales in the field regarding the package meeting room based on brochure brought still less can be defined by the client, so that at least more than one client a year felt should still take the survey by going to the hotel which could lead to loss of time and cost on weekdays for the client itself ,
3. Due to the absence of a warning for recording meeting room booking on the package by the admin, the possibility of errors such as double booking is still often occur as in the months to close the books each year.

### 2.2.2 Analysis System Ongoing

Analysis of the current system is analyzing the activity of work procedures that occur on the system is running.

Business processes and activities of the system is running at Travello Bandung related to this research is the procedure of booking meeting rooms

and hotel promotion at Travello hotel. Because there are no media that provide a 3D view, the meeting room of promotional activities was conducted using 2-dimensional media will be explained to the client. The procedure is done Sales promotion Travello hotel Bandung today is:

1. *Direct Of Sales* provide brochures and client list and explain the terms and conditions of the existing promotion to Sales.
2. *Sales* receive a brochure and a client list and note terms and conditions of sale provided by Direct Of Sales.
3. *Sales* contact the client to ask for permission presentation on promotions and amenities at Travello Bandung.
4. *client* received a permit application.
5. If the management of the client permits, then Sales Travello hotel will do promotions in place that have been agreed.
6. If the client does not allow the management side, then sales will reach the target of another client.

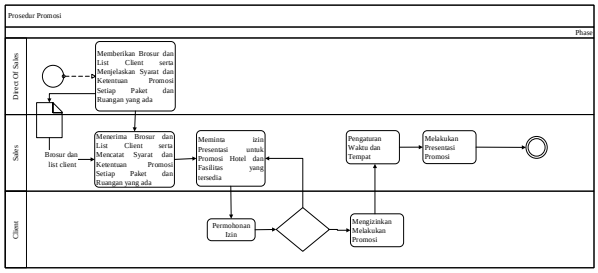



Figure 3. 1 Promotion procedures

## 2.3 Similar Applications Analysis

Applications analyzed are building virtual applications 3d room-booking as a promotional medium Bandung hotel services patra created by Dwi Yani S, Kom and hotel NEO virtual reality created by Alim Astiri Kirana, Kom.

Table 3. 1 Comparison applications Patrajasa hotel and the Hotel Travello

| **appeal** | **Applications promotions Hotel Patrajasa** | **Applications to be built** |
|---|---|---|
| Technology | *virtual* reality | *virtual* reality |
| Superior | Using Virtual Reality as well as to display the information in detail, complete specifications, to do the booking transaction records, data management rooms were still empty and filled | 360 degree camera used in the overall depiction of the rooms and facilities within the hotel. Different from other facilities, a meeting room will be illustrated in the form of 3D. |
| Data | Using the mysql database in the process through backend | Using the mysql database in the process through backend |
| input | Users can choose a different type of room you want to see | Users can choose a different type of meeting space that is tailored to the type, and the captured packets. |
| output | Which contains information on the type of hotel room, hotel facility information, information about the type of hotel room. | Which contains information on the type of hotel room, hotel facility information, information types and meeting rooms. |
| Software | 4:12 version of Android Jelly Bean | Android version 4.3 Jelly Bean |

Table 3. 2 Neo comparison hotel applications and Hotel Travello

| **appeal** | **Applications promotions Hotel Neo** | **Applications to be built** |
|---|---|---|
| Technology | *virtual* reality | *virtual* reality |
| Superior | *virtual* Reality using google cardboard, turn on or turn off the lights. | 360 degree camera used in the depiction of the entire room and the facilities in the hotel. Different from other facilities, a meeting room will be illustrated in the form of 3D. |
| Data | Do not use a database | Using the mysql database in the process through backend |
| input | Users select the type of room you want to see | Users can choose a different type of meeting space that is tailored to the type, shape, and the captured packets darkness .. |
| output | Which contains information on the type of hotel room, informai of hotel furniture | Which contains information on the type of hotel room, hotel facility information, information types and meeting rooms. |
| Software | 4:12 version of Android Jelly Bean | Android version 4.3 Jelly Bean |

### 2.3.1 Proposed Hotel Virtual Analysis

Virtual Analysis hotels to be built as part describing the proposed virtual hotel. Virtual hotel that will be built is Application*Virtual Tour Hotel For Media Promotion And Reserve Meeting Room Hotel Travello duo*, Here is the procedure the system to be built:

1. *Sales* promoting any meeting room packages available, along with the existing terms and conditions of use of mobile applications created

2. *client* choose Package is available by doing a tour hotel, or directly see the virtual room.
3. *client* set the number of participants who will participate, the time and space that will be used etc.
4. *Sales* explaining that Client Package take, and explain what facilities will be able to do a virtual tour using existing hotels in the mobile app
5. Sales mengubungi part Receptionist to confirm the time and place is empty, or full booking. to inquire the time and type of room as well as the position chosen by the client
6. *Receptionist* provide information about the type of meeting space and free time to the sales room
7. *Sales* receive information types kosongnya.kApabila Meeting room with a meeting room with the desired time is available, then the client can make bookings.

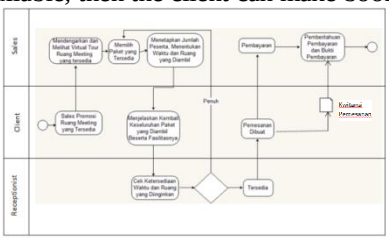


Figure 3. 2 The procedures to be set up

### 2.3.2 System Architecture

Applications that will be built is based on Android, while the following is an overview about the architecture of the system to be built. The system has two interfaces, namely frontend and a backend. The system architecture to be built can be seen in the following figure.

1. Overall System Architecture

Here is the architecture of the overall system:

a. Sales and Admin section to connect to the Internet.
b. Parts sales access the application.
c. Admin section perform data processing applications that connect through the internet, will make requests to the webserver
d. Web Server will make requests to the database.

Here are the overall system architecture to be built on the application can be seen in Figure 3.10

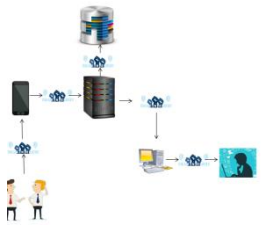
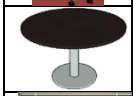


Figure 3. 3 The overall system architecture to be built

2.2.2 Object Modeling Analysis

In this modeling stages of data - the data that has been obtained be referenced 3D modeling, creation of models using Google Sketchup.Tahapan tools will generate a model - 3D model in the form of the building - the building and property are still separated.

Table 3. 3 Table Object 3Dimensi who have gone through the stages of rendering

| 3D objects | name Object | Description |
|---|---|---|
|  | Box Meeting Desk | This table is used when a meeting room, with the type of place |
|  | meeting chair | Used throughout the conference activities, training etc. |
|  | Round table | often used for formal events, such as table manners and more |
|  | screen Projectors | Used throughout the conference activities, training etc. |
|  | Type U | Type U itself is a U-shaped seat placement of this type are usually taken for meeting activities, training and others. |
|  | Type Double U | Double Type U, chairs and table placement is almost the same as U type only for this type in duakalikan. Usually this type is taken for training, meetings, reunions and others. |
|  | Meeting room type, Type Classroom | Classroom Type menemptkan table and chair exactly like the classroom situation. As a rule of this type is used for training, seminars, |
|  | Theater mode | Theater mode the seat placement is done sequentially by an empty middle section is usually used for seminars, reunions, training and other |
|  | Meeting room type, Type Round Table | Round Table-type or round table is usually done in the ballroom. This type is usually taken for the event tabble manner, Yudisium and others |

## 2.4 Design Database

The design of the data or better known as database design is create or design the related data and stored together. Is used to describe a relation schema and table structure design. The results of the implementation of the two databases will be done

### *2.4.1 Entity Relationship Diagram (ERD)*

ERD is a model to explain the relationship between the data in the database based on the data base objects that have relations between relations. Here are the ERD that w be made on the application of this promotion.

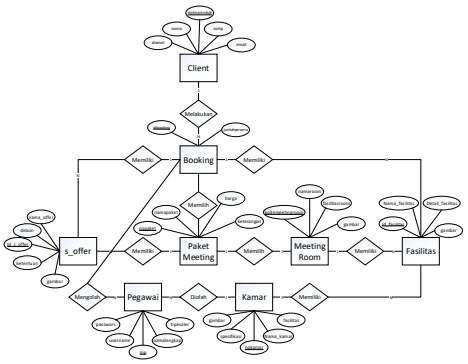



Figure 3. 4 Entity Relationship Diagram (ERD)

### *2.4.2 Use Case Diagram*

*Use case diagrams*used to describe a number of external actors to use case contained in the system. Use case diagrams describe the state of the environment is only a system that can be seen from the outside by the actor. Use case consists of three parts, namely the definition of actors, the definition of use cases and use case scenario. Use case contained in this application development can be seen in the following figure:

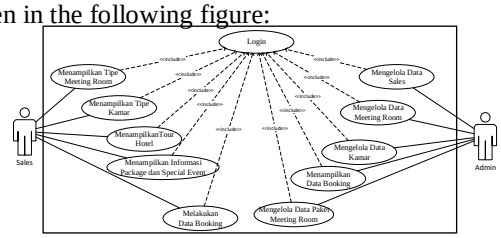



Figure 3. 5 Use Case Diagram

### *2.4.2 Relation scheme*

Table relation describes a relationship between tables that already exist in normal circumstances. The connection relation table used in the application of this sale can be described in pictures 3:36 relation scheme.

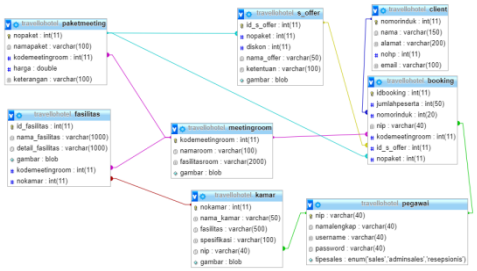



Figure 3. 6 Relation scheme

## *2.5* Design of Structure Menu

Design of Structure Menu at Travello Hotel as promotion media and reserve meeting room has 2 structure menu the menu structure sales admin and sales, following a sales admin menu structure can be seen in Figure 3. 64

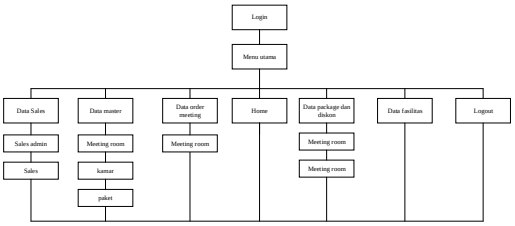



Figure 3. 7 Sales admin menu structure Travello Hotel

Here is the menu structure of sales in hotels Travello can be seen in

Figure 3. 65

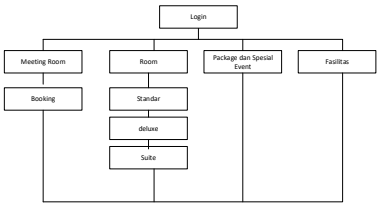



Figure 3. 8 Menu Structure Sales

## 2.6 Semantic network

Here is a semantic network that will explain the process flow of the interface have been made. Teradapat 2 semantic network, the semantic network backend (admin). and a semantic network frontend (sales).

1. Semantic Network Backend (Admin)
   The following semantic network backend can be seen in Figure 3.

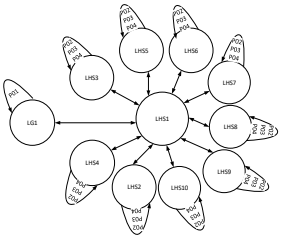



Figure 3. 9 Semantic network backend

2. Frontend semantic network (Sales)
   Here is Fronted network (sales) can be seen in figure 3.

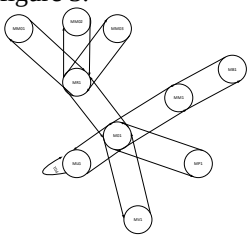


Figure 3. 10 Semantic Network Frontend

### 2.1.1 screenshot Program

Here are some screenshots taken from programs already running.

backend

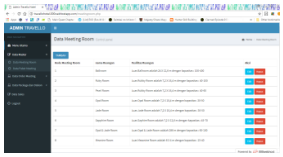
1. Login user interface



2. Dashboard Display Interface



3. Data Master Data interface Meeting Room



frontend

a. Display Backend interface implementation can be seen as follows:

**1.** Login user interface



**2.** Room menu interface



**3.** Display menu interface meeting room



**4.** Display menu interface meeting room 360



## 2.7 Black Box Testing

Functional testing is used to test the new system is a black box testing methods. Black box testing focuses on functional requirements of the software.

### *2.6.1 Black Box Testing Plans Frontend*

Testing is done by testing each process use case diagram and the possibility of errors that occur for each process. The test is performed by Black Box, which is done by paying attention to the system input and output of the system. Plan testing to be performed on this application can be seen in Table 4.6

*Table 4. 1 Testing plan* Black Box Frontend

| No. | Functional Tested | testing plan | types of Tests |
|---|---|---|---|
| 1 | *Login* | Enter your username and password | *Black Box* |
| | | Selecting the "Login" | *Black Box* |
| 2 | Displays the type meetingroom | Log in the main menu, select the meeting room | *Black Box* |
| | | Choose one meeting room by tapping a button the name of the meeting room | *Black Box* |
| 3 | Displays the type of room | Log in the main menu, select menu room | *Black Box* |
| | | Choose one of the rooms with the room name pressing button | *Black Box* |
| 4 | Showing Tourhotel | Log in the main menu, select menu tour hotel | *Black Box* |
| | | The first appearance is the first lobby, reception | *Black Box* |
| 5 | Showing information package and special event | Log in the main menu, select the package and special event | *Black Box* |
| | | Information about the package and will open a special event | *Black Box* |
| 6 | make booking | *input* ordering data | *Black Box* |
| | | Pressing the button "booking" | *Black Box* |

### *2.5.1.1 Black Box Testing Plan Backend*

Here is the testing of the Backend

*Table 4. 2* Black Box Testing Plan Backend

| No. | Functional Tested | testing plan | types of Tests |
|---|---|---|---|
| 1 | Managing sales data | Pressing the key sales data | *Black Box* |
| | | Adding sales data | *Black Box* |
| | | Changing the sales data | *Black Box* |
| | | Deleting data sales | *Black Box* |
| | | Store sales data | *Black Box* |
| 2 | Manage the data meeting room | Pressing the data button meeting room | *Black Box* |
| | | Add data meeting room | *Black Box* |

| No. | Functional Tested | testing plan | types of Tests |
|---|---|---|---|
| | | Changing the data meeting room | *Black Box* |
| | | Deleting data meeting room | *Black Box* |
| 3 | Manage the data room | Pressing the button the data room | *Black Box* |
| | | Adding the data room | *Black Box* |
| | | Changing the data room | *Black Box* |
| | | Deleting data room | *Black Box* |
| 4 | Displaying data booking | Pressing the data button booking | *Black Box* |
| | | Displaying data booking | *Black Box* |
| | | Deleting data booking | *Black Box* |
| 5 | Manage the data packet meeting room | Pressing the switch packet data meeting room | *Black Box* |
| | | Adding a data package meeting room | *Black Box* |
| | | Changing the data packet meeting room | *Black Box* |
| | | Deleting data package meeting room | *Black Box* |
| 6 | to logout | Pressing the "logout" | *Black Box* |

## 3. COVER

## CONCLUSIONS AND RECOMMENDATIONS

In this chapter will put forward the conclusions that can be obtained from the discussion of previous chapters as well as suggestions for improvement and further development of the system.

### 3.1 Conclusion

After doing the analysis, design, and testing of the research conducted, it can be concluded as follows:

1. Application *virtual tour* a media campaign and meeting room reservation hotel, can help sales in promoting and introducing a better hotel, because visualization of the state of the hotel looks more clear and evident.
2. Virtual tour application is also able to help sales and admin sales in terms of meeting space reservation to facilitate the reservation of manually by the choice and the application can also be menghindai the double booking which became one of the problems most wanted solved by the hotel.

### 3.2 advice

Based on the results of testing the application, there are suggestions for menambakan things - things that can complement the Virtual Tour application as Media Promotions and Reservations Meeting Room of the future, among other things:

1. Improving the quality of the image to make it look better.
2. Adding Mapping nearby tourist locations of hotels with the distance and the direction of the tourist attractions, which could be one appeal to make a reservation at Travello activities.
3. Adding one more users, namely Direct of Sales, as the recipient of the report, online. Not only the physical file, for more mengeffisienkan mengeffektifkan time and circumstances.

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