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Hotel Booking System for Ridel Hotel Kota Bharu

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Abstract: The purpose for this project is to develop a web-based hotel booking system for Ridel Hotel Kota Bharu. The project aims at upgrading and automating manual booking activities which is really inefficient and time-taking. Their current booking activities are quite far behind as they are still using manual system to handle booking processes. Every reservation details and guests information are still recorded in a book and files and those files will be stored in the cabinet near the counter. The bills is done manually too. For this hotel booking system project, it is actually not only it will secure the data far more better than the current manual system, but also can record much more detailed data of unlimited amount of guests. This hotel booking system will provide various of functionality to user and hotel receptionist. The activities regarding this system involve making a reservation/booking, room cancellation, new guest registration, room types and service, and total billing. This system will be developed as a website platform using structured analysis approach. Hopefully this Hotel Booking System will help to ease the problem that this hotel faces. Upgrading their booking system can make lot of advantage as it will increase the hotel's efficiency and can save so much time. An easy and user-friendly booking system will attract more guests and this will increase the chance of reaching business goals. The hardware requirements that use in the developing the system is Acer Aspire ES 15 laptop, Intel® Celeron® Quad Core Processor N3160, 4 GB DDR3 L RAM (Random Access Memory), and 500 GB HDD hard drive, while for the software requirements used in building this propose system is Microsoft Windows 10, Hypertext Pre-Processor (PHP), Edraw Max, MySQL, XAMPP, Sublime Text 3.0, and phpMyadmin. Next, the interface design of the propose system are the homepage interface, login interface, registration interface, room catalogue interface, booking interface, and cancellation interface.

Keywords: Hotel Booking System, Web-based system.

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1. Introduction

Ridel Hotel is one of the hotel that located in the city of Kota Bharu. Most of the backpackers usually go here to stay the night as the price are quite affordable and worth the view of panoramic Kota Bharu. Not many knows about this hotel as the location are little bit hided from the public attraction.

Ridel Hotel who are not that new in this hotel industry having some problems with their booking managements. Their current managements are quite far behind as they are still using manual system to handle booking processes. Every reservation details and guests information are still recorded in a book and files and those files will be stored in the cabinet near the counter. Their current systems are quite unsafe as this file-based systems will be so hard to secure. This current system also are not accurate and time taking. Lot of times will be wasted in the process of searching for a record in a file.

This project will implement a system that cover a basic booking processes done in the hotel. The project will include booking, room cancellation, new guest registration, login, display room catalogue details, and room and booking manage. These components will be stored in a database with a nice user-friendly interface and easy to use.

This Hotel Booking System will helps to ease the problem that this hotel faces. Upgrading their booking system can make lot of advantage as it will increase the hotel's efficiency and can save so much time.

2. Literature Review

2.1 Hotel Booking System for Ridel Hotel Kota Bharu

The overall manual system that Ridel Hotel has been applied in their business have become a lot of burden especially to the receptionist. Every reservation details and guests information are still recorded in a book and files and those files will be stored in the cabinet near the counter. It is also a time taking and not efficient. Lot of times will be wasted in the process of searching for a record in a file. Their current systems are quite unsafe as this file based systems will be so hard to secure.

The purpose of this hotel booking system is to provide an easy booking system of a hotel with capabilities to do basic process such as reservation or booking, room cancellation, new guest registration, login, room catalogue display, and room manage. Not only it will secure the data far better than the current manual system, but also can record much more detailed data of unlimited number of guests. This system will bring lot of advantages to both guest and receptionist as it will ease the booking process, which is the booking process will be done faster and more efficient and save lot of time.

2.2 Web based Booking System

Web based hotel booking system is a system that developed by the hotels to enabled guests to make secure online booking through the website. The collected data is transmitted to an extranet, often known as a backend system, which receptionists may readily access to handle bookings. The entire process is carried out online. Now that it is a computerized process, there can be no double-booking or human error in this system [1].

A web-based architecture is a structure term that holds interactions and linkages between application features such middleware frameworks, user interfaces, and databases [2]. Web-based hotel booking system has many advantages than the manual or file based system. Firstly, it will lessen the burdens for the receptionist to handle mass booking at one time. Secondly, receptionist can maximize the reservations. Customers who book their own reservations are more likely to turn up, making no-shows in the past. If the customer wants to cancel, the place will immediately open online, allowing another customer the opportunity to book it.

2.2 Study of Existing Systems

Table 1: Comparison table

Module	Hotel Booking System			
	Hotel Booking System for Ridel Hotel	**Traveloka**	**Trivago**	**Agoda**
Registration	Yes	Yes	Yes	Yes
Login	Yes	Yes	Yes	Yes
Room catalogue	Yes	Yes	Yes	Yes
Booking	Yes	Yes	Yes	Yes
Cancellation	Yes	Yes	Yes	Yes
Payment	No	Yes	No	Yes

Table 1 shows the comparison systems between the proposed system and the three existing systems, that is Traveloka, Trivago, and Agoda. For the registration, login, room catalogue, booking, and cancellation module, all of the booking website have them in their system. For the payment module, only Traveloka and Agoda have that module in their system, except for Hotel Booking System for Ridel Hotel and Trivago.

3. Methodology

A system development methodology refers to the framework that is used to structure, plan, and control the process of developing an information system [3]. For this Hotel Booking System for Ridel Hotel Kota Bharu, prototype approach will be the system methodology, which gathering requirements, quick design, building prototype, user evaluation, refining prototype and system implementation [4]. Table 2 below shows the system development workflow and activities.

Table 2: System Development Workflow and Activities

Phase	Details	Output
Requirements Gathering	- Interviewing Ridel Hotel's receptionist. - Ask everything regarding booking process and the problems. - Collecting requirements which are defined in detail.	- Planning and proposal documents. - Gantt Chart.
Quick Design	- Creating preliminary design.	- Flow Chart. - Brief sketch design of the system.
Building Prototype		- System design.

Phase	Details	Output
	- Making a quick design using the information that have been gathered from the second phase. - Writing code.	- A prototype of the booking system.
User Valuation	- The prototype system will be presented to the user. - Their feedback and suggestion are collected in order to use it in refining prototype phase later. - Identifying problems.	- Feedbacks and suggestions for improvement.
Refining Prototype	- Correcting any problems that occur in the system according the feedback and suggestion on the forth phase. - Writing correction code.	- A refined system.
Implement and Maintain	- Testing out the system. - Undergoes everyday maintenance. - Removing any error and bugs.	- A Hotel Booking System.

4. Analysis and Design

This phase is initiated by analysing the relevant existing system to define the system requirements and the architecture of the system. The associated tasks involved in this phase include evaluating business procedures, gathering operating data, understanding the workflow, and offering a strategy to resolve the system's deficiency and flaws, and accomplish organizational objectives.

4.1 System Requirement Analysis

System requirement analysis is basically a method of measuring or determining user's expectations about the new developed system. System requirement analysis involves certain activities that are intended to determine the needs or criteria to meet for the new developed system [5].

Table 3 below shows the functional requirement modules of Hotel Booking System for Ridel Hotel. The functional requirements consist of seven modules with different functionality.

Table 3: Functional Requirement Modules

Module	Function
Register	- The system should allow user/guest to register into the system by inserting personal data. - The system should allow the guest to get their own username and password once successful registration.
Login	- The system should allow the user/guest/receptionist to login to the system using their own username and password. - The system should allow user to put the correct username and password.

Module	Function
	- The system should notify the user for entering invalid username and password. - The system should redirect the user to main homepage after a successful login.
Date and occupancy setting	- The system should allow the user/guest to set the date for their staying in the hotel and occupancy.
Room catalogue details	- The system should allow the user/guest to set the date for their staying in the hotel and occupancy, so the system will display all the rooms types according to their preferences. - The system should allow user to view and search for the rooms and type of rooms according to their preferences. - The system should allow user to choose their preference room to book. - The system should notify the user about the utilities and service the rooms and hotel offered for every types of rooms. The system should notify the user if the rooms are unavailable due to under maintenance or the rooms are fully booked.
Booking	- The system should allow the user to book the room if only the room are not booked yet by other user. - The system should notify the user if the room are already fully booked. - The system will transfer all the booking details to the receptionist to manage and the data to be stored in the database. The system will notify the user the booking confirmation details notice once they successfully booked.
Cancellation	- The system should enable the user to cancel their booking anytime. - The system will transfer the cancellation details to the receptionist for the cancellation process to be manage. - The system should notify the user after successful cancellation has been made.
Room manage	- The system should allow the receptionist to update anything related to booking system, such as updating and adding more room details, updating new room into the system and delete features or any details related.

4.2 System Analysis

Figure 1 shows the Context Diagram (CD) of the proposed system.

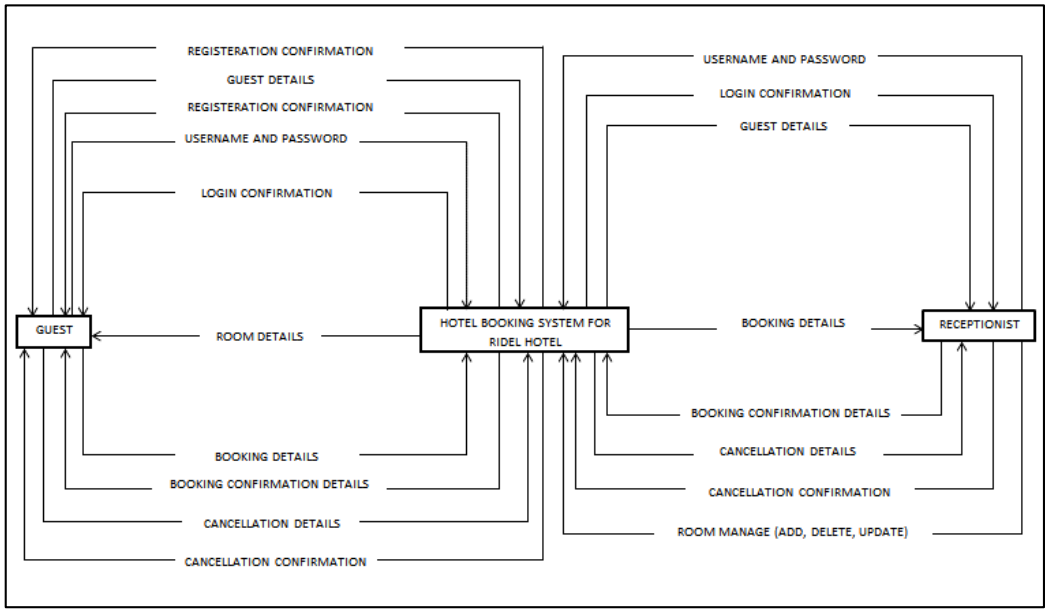

Figure 1: Context Diagram

Next, Figure 2 below shows data flow diagram (DFD) level 0 for Hotel Booking System for Ridel Hotel that contains seven processes. These seven processes are register, login, receptionist login, room catalogue display, booking, cancellation, and room and booking manage. The entities will be the guest and receptionist as administrator.

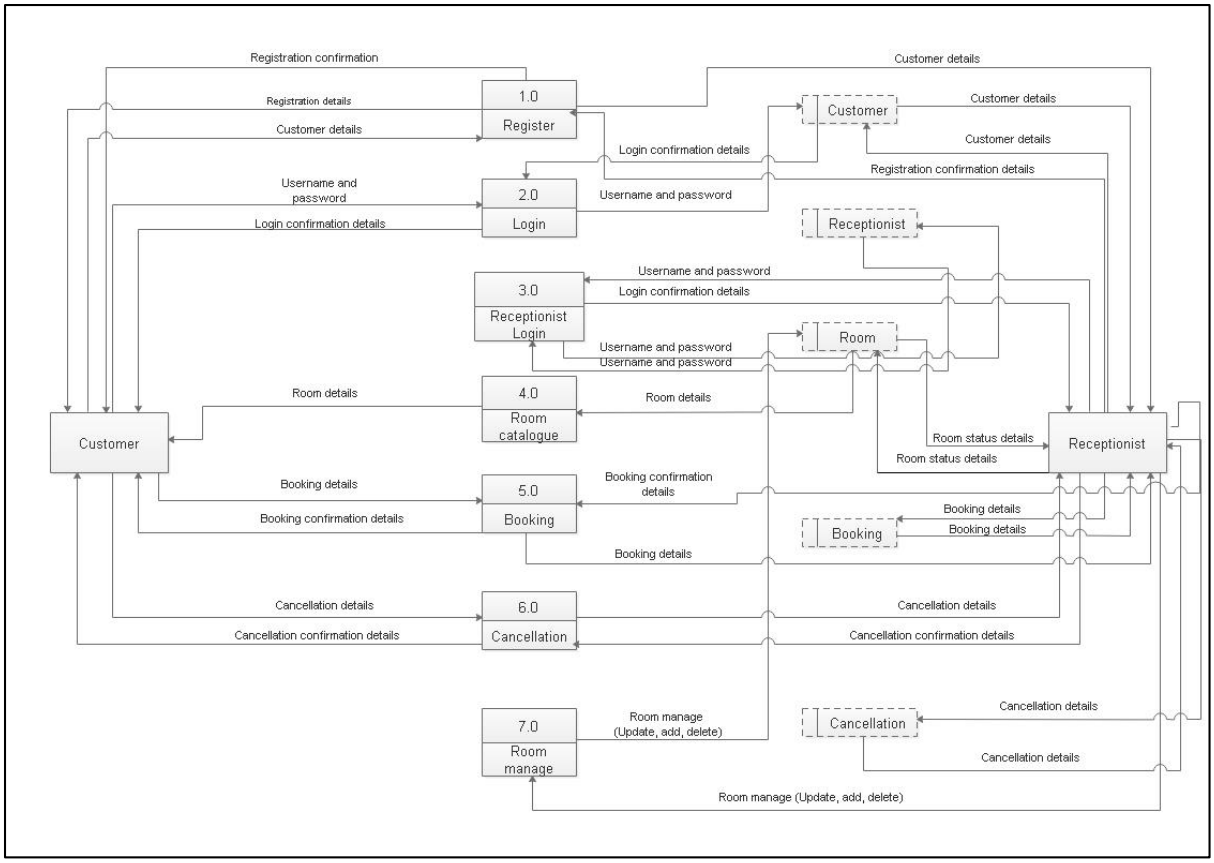

Figure 2: Data Flow Diagram level 0

Figure 3 below displays the Entity Relationship Diagram (ERD) which contains five entities along with the relationship that connects to each other. The entities are guest, receptionist, booking, room and cancellation.

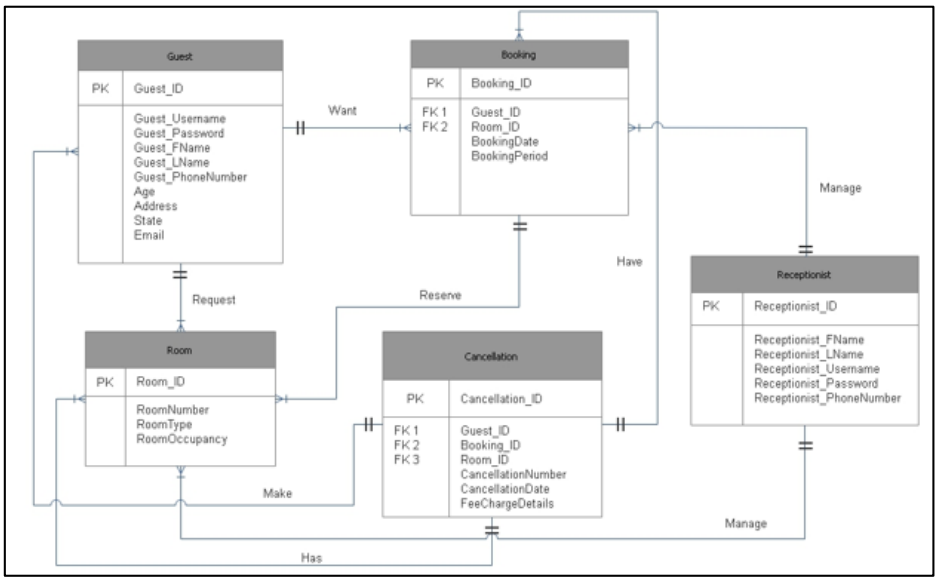

Figure 3: Entity Relationship Diagram

Figure 4 below exposes the Administrator/Receptionist flowchart of Hotel Booking System for Ridel Hotel. Firstly, receptionist will login to the system in order to get access to the system. If the receptionist did not have an account yet especially the new receptionist, they need to register first. The confirmation details will be received. Once they login to the system, the system will display the menu. Receptionist should be able to view the booking request so that the receptionist can manage the booking and view the room status. If there are booking request, the receptionist will receive he booking details and the system will notify the user/guest about the confirmation of booking. If there is no booking request, then the system will display unavailable booking notice.

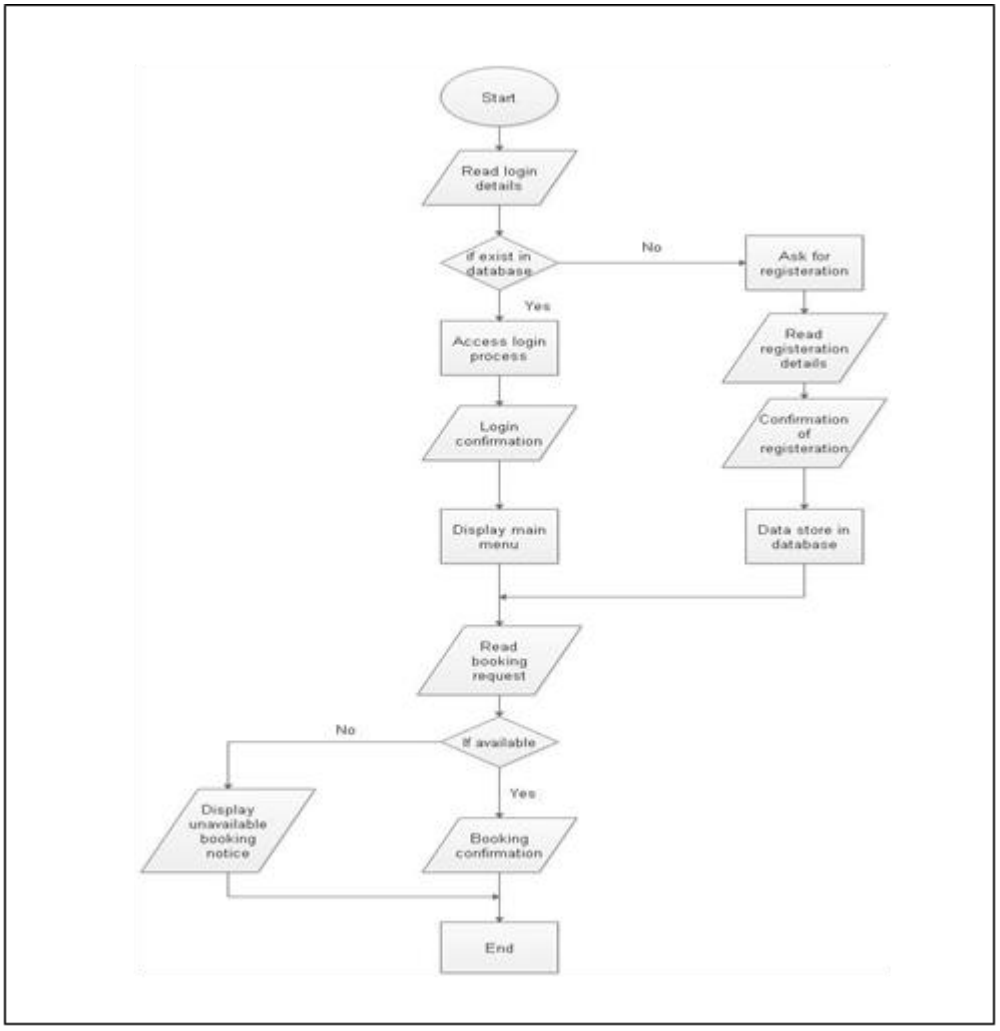

Figure 4: Administrator/receptionist Flowchart

Figure 5 below shows the guest flowchart of Hotel Booking System for Ridel Hotel.

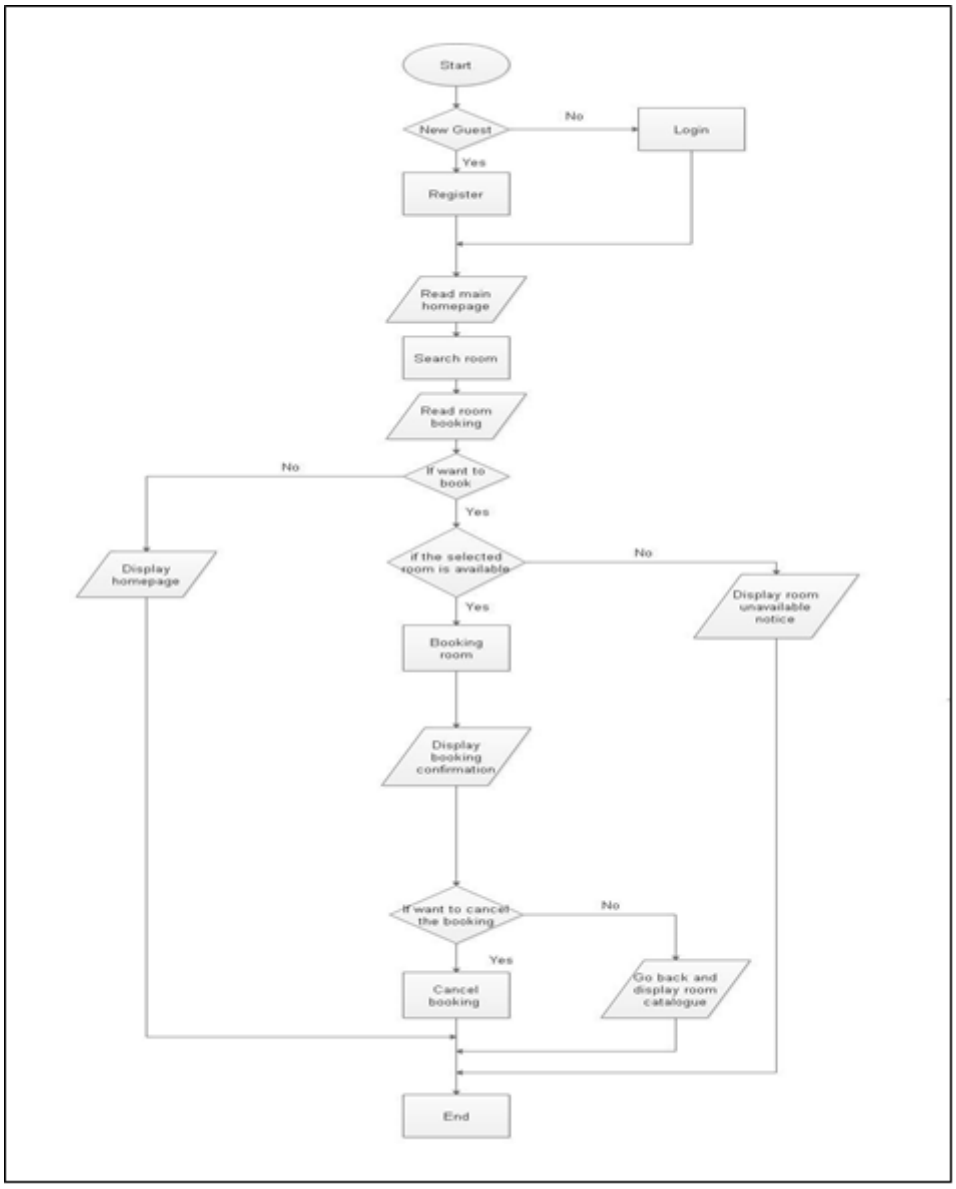

Figure 5: Guest Flowchart

5. Implementation and Testing

5.1 System development

System implementation and testing is a critical phase in the quality assurance process because it is to check and validate both the system architecture and the requirements [6]. Programming is a critical component of this stage's functions and needs. This system implementation also discusses the development of this Hotel Booking System for Ridel Hotel Kota Bharu in terms of programming and phase application. The system is expected to perform properly with all modules operating well in order to ensure the completion and success of this project.

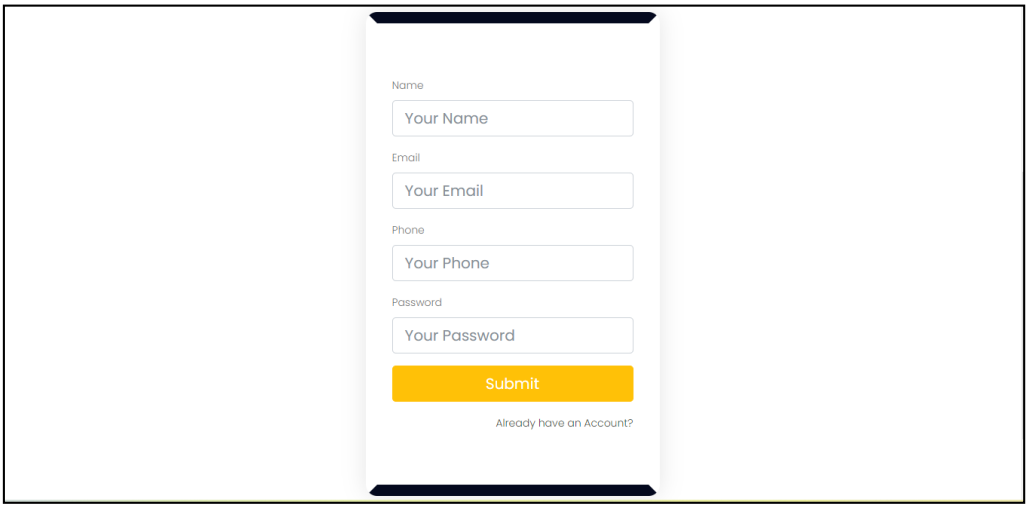

Figure 6: Registration module

Figure 6 displays the interface of the registration module for Ridel Hotel Kota Bharu's hotel booking system. The function is to allow the guest to register into the system.

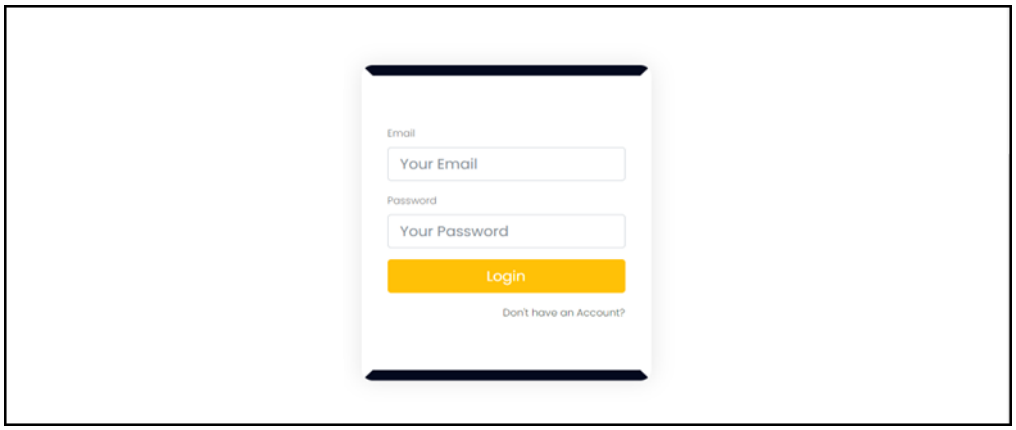

Figure 7: Login module

Figure 7 displays the interface of the login module for Ridel Hotel Kota Bharu's hotel booking system. There are two text fields that need to fill by the user in order to log into the system, which are e-mail, and password. There will be 'Login' button at the bottom of the page to log into the system.

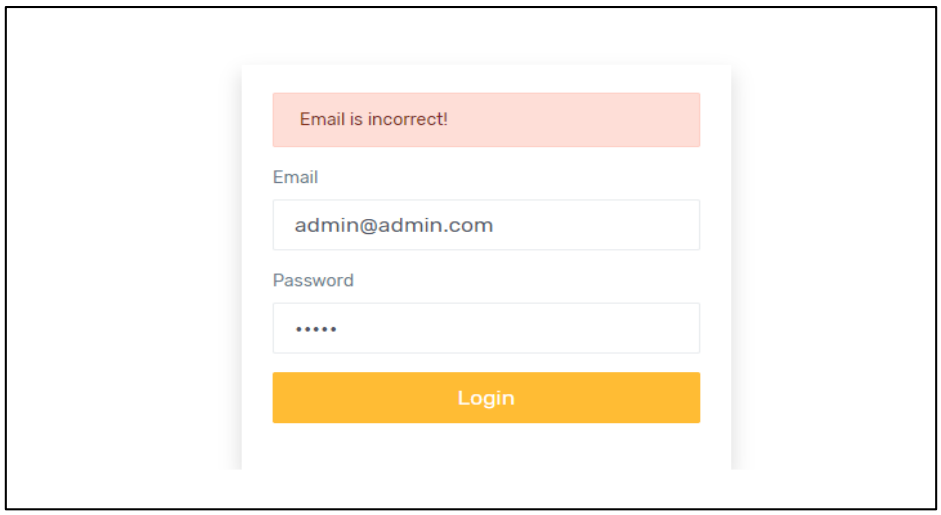

Figure 8: Administrator/receptionist login module

Figure 8 displays the login module for Ridel Hotel Kota Bharu's hotel booking system. There are two text fields that need to fill by the user in order to log into the system, which are e-mail, and password. This module allows the receptionist to log in to the system.

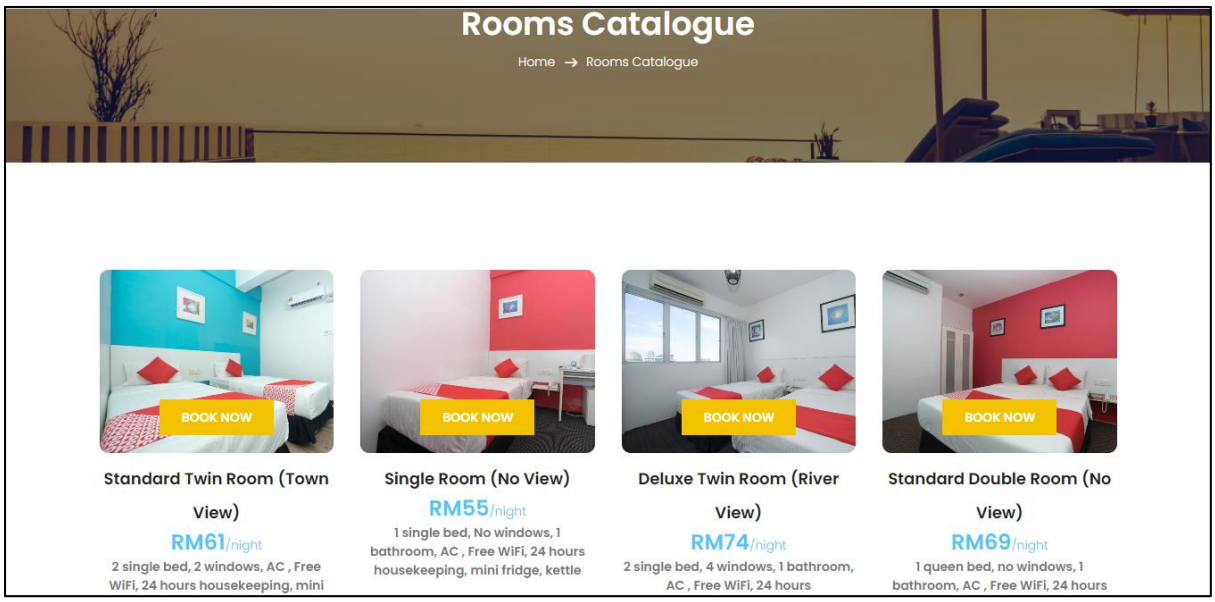

Figure 9: Room catalogue details module

Figure 9 displays the room catalogue details module. It enables users to browse for rooms and room types based on their preferences. The module enables the user to choose their preferred room to book. Additionally, the module also informs the user about the utilities and services that the rooms and hotel provide for various room kinds.

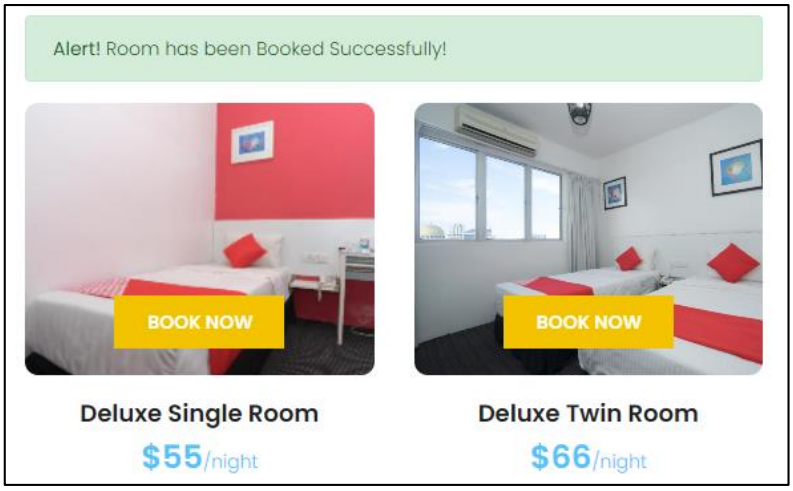

Figure 10: Booking module

Figure 10 shows the booking module of Hotel Booking System. It enables the user or visitor to reserve a room by clicking on the 'Book Now' button.

Figures for administrator/receptionist are displays in all the figures below. Firstly, Figure 11 shows Room and booking manage module for view room. The function is to allow the receptionist to view room inside the hotels as well as delete the existing rooms, while Figure 12 shows room and booking manage module for create room. The function is to allow the receptionist to create or add new room. Next, Figure 13 displays room and booking manage module for booking list, which is the system will shows list of booked rooms made by the guests. Finally, Figure 14 exposes room and booking manage module for view users, which is allow the receptionist to view the registered users of guest.

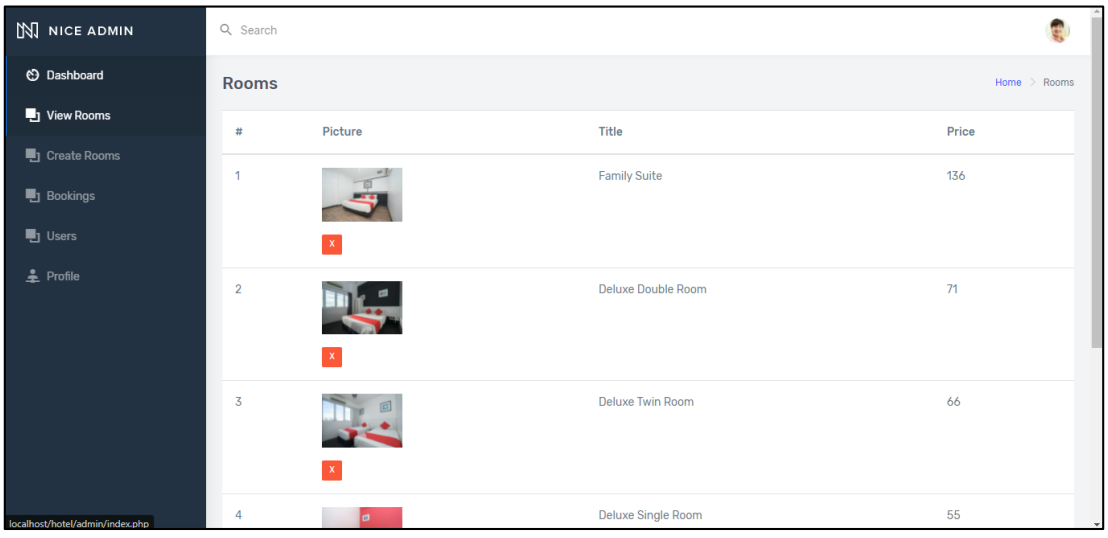

Figure 11: Room and booking manage module (view room)

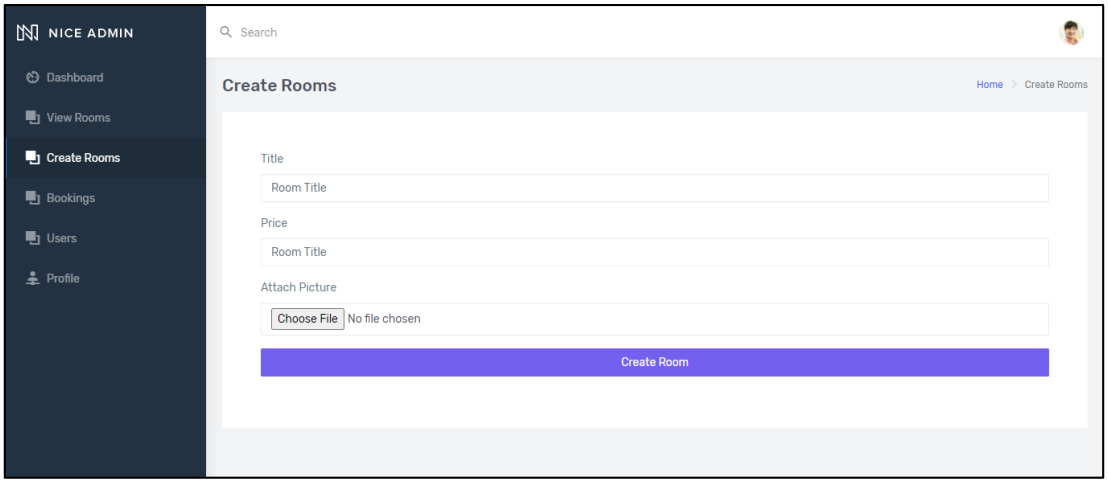

Figure 12: Room and booking manage module (create room)

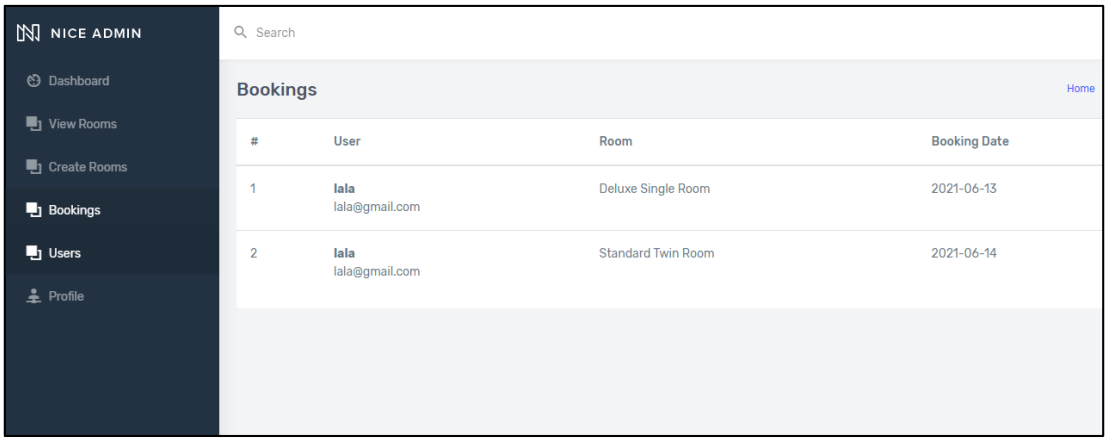

Figure 13: Room and booking manage module (booking list)

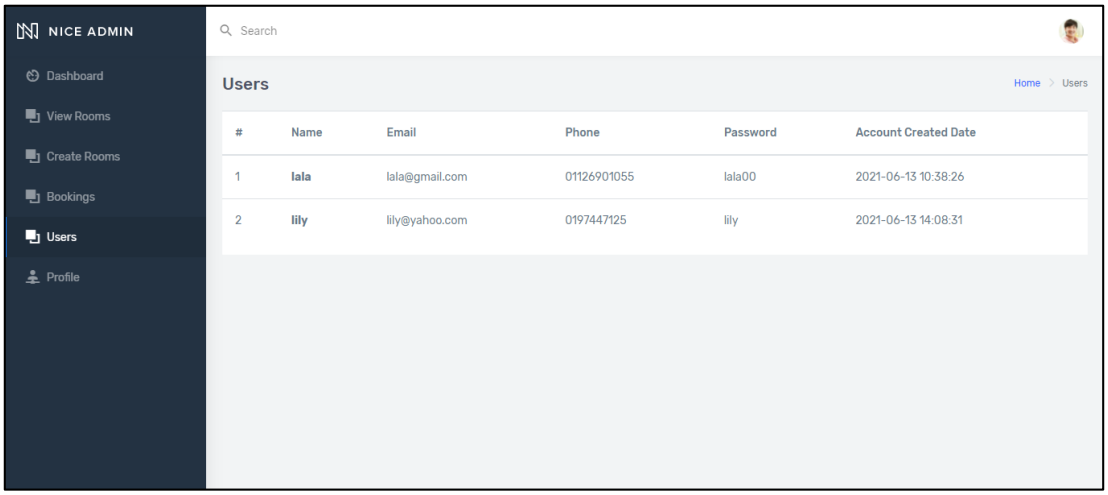

Figure 14: Room and booking manage module (view users)

5.2 System testing

System testing is a kind of testing that verifies the system as a whole and completely integrated. The objective of this method is to find any errors, bug or logical error that can affect the entire system [7].

Table 4 below shows the testing for the registration module of the hotel booking system. As shown in the table, the expected result and the actual result are compared according to the functionalities of the module. Next, Table 5 shows login testing for login module, while Table 6 shows room catalogue details testing for room catalogue details module. Moreover, Table 7 displays booking testing for booking module. Next, Table 8 displays cancellation testing for cancellation module while Table 9 shows room and booking manage testing for room and booking manage module.

Table 4: Registration testing for registration module

Testing description	Expected result	Actual result
Allow the user/guest to register into the system by inserting their personal data.	Expected to successfully registered into the system	Success to registered to the system

Table 5: Login testing for Login Module

	Testing Description	Expected Result	Actual result
Login module for Guest	-Allow the guest to log in to the system using their registered email and password.	- Expected to successfully login to the system	-Successfully login to the system
Login module for receptionist/administrator	-Allow the receptionist to log in to the system using their registered email and password.	-Expected to successfully login to the system	-Successfully login to the system

Table 6: Room catalogue details testing for room catalogue details module

Testing Description	Expected Result	Actual result
-Enables users to browse and search for rooms and room types based on their preferences -Inform the user about the utilities and services that the rooms and hotel provide for various room kinds	-Expect that user/guest be able to browse and search for rooms and room types based on their preferences. -Expected to have utilities and services that the rooms and hotel provide for various room kinds displayed for every rooms.	-The guest can search for their room according to their preferences. -The rooms details displays successfully.

Table 7: Booking testing for booking module

Testing Description	Expected Result	Actual result
Enables the user/guest to book a room by clicking on the 'Book Now' button. Following a successful booking, the system will inform the guest with the booking confirmation	• User are expected to successfully book their room • A booking confirmation notification will pop-out.	User can successfully book their room.

Table 8: Cancellation testing for cancellation module

Testing Description	Expected Result	Actual result
-The module should enable the user tocancel their booking anytime.	-User able to cancel their room booking	-Could not perform due to error
-The system will transfer the cancellation details to the receptionistfor the cancellation process to be manage.	-The cancellation data transferred to the database so that receptionist could view the data.	-Failed to perform due to error
-The system should notify the user after successful cancellation has been made.	-A notification will pop out once the cancellation has been made to notify the guest.	-Failed to perform due to error

Table 9: Room and booking manage testing for room and booking manage module

Testing Description	Expected Result	Actual result
-Allow the receptionist to update anything related to booking system, such as view room and user/guest list, adding more room details, updating new roominto the system and delete features or any details related.	-The module was expected to allow receptionist to be able to view room and user/guest list, adding more room details, updating new roominto the system and delete features or any details related.	-The module is successfully can perform the task well
-Allow the receptionist to view bookings from the users/guests and list of users/guests.	-The module was expected to allow receptionist to be able to view bookings from the users/guests and list of users/guests	-The module is successfully can perform the task well

5.2 User Acceptance Testing

The user acceptance testing is a testing that carried out to the user for them to test the Hotel Booking System for Ridel Hotel Kota Bharu before they fill in the user acceptance questionnaire. There are about 20 respondents selected from the Kota Bharu community to test the system and fill in the questionnaire. This testing is important to know what the system will improve from the user's point of view and their suggestion later can be used for the future development.

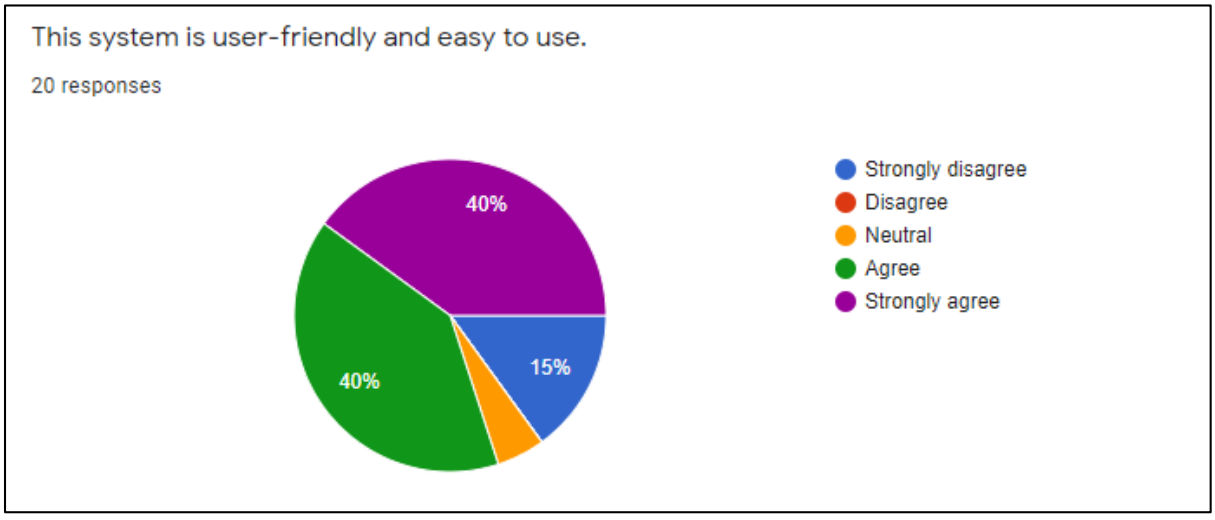

Figure 15: User acceptance testing on easy to use and user-friendly system

Figure 15 above shows the user acceptance on easy to use and user-friendly system. From the questionnaire given to the respondents all the result was recorded and displayed in the form of pie chart. From all the respondents, there is about 40% that agree this system is user-friendly and easy to use, while 15% are strongly disagree to it. About 40% of the respondent chose the strongly agree option while the rest of 5% chose neutral.

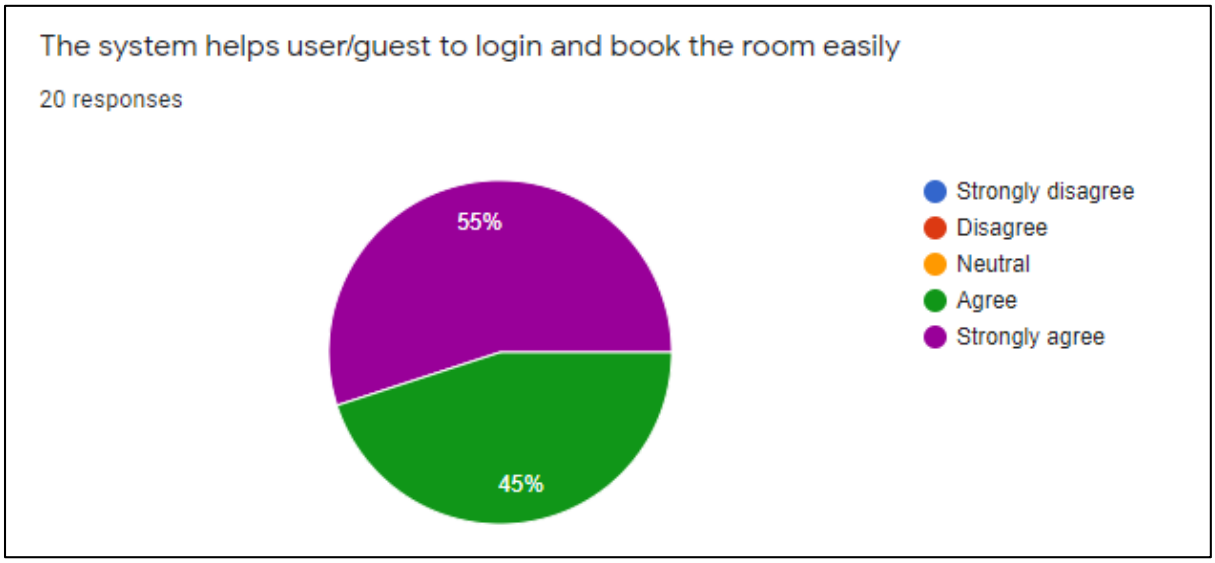

Figure 16: User acceptance testing on easiness in login and room booking

Figure 16 above shows the user acceptance on easiness in login and room booking. From the questionnaire given to the respondents all the result was recorded and displayed in the form of pie chart. From all the respondents, there is about 55% of people responded strongly agree that the system helps the users to login and make a room booking easily while 45% of the respond are agree.

6. Conclusion

In conclusion for the hotel booking system for Ridel Hotel Kota Bharu, Hotel Booking System for Ridel Hotel Kota Bharu providing lot of advantages to the user, especially to guest and receptionist. With this system, guest can book the room in Ridel Hotel through website without having to walk in or call the receptionist to book anymore. The system is a 24 hours operation system, so the guest can make the booking anytime they want. The system will ease the workload and makes the booking process become easy, effective and efficient, as well as helping the receptionist managing the task regarding the booking process.

This project has fulfill the requirements and goals that later will benefit the Ridel Hotel, which is the system can do the booking process task that can make the reservation task become easier for the guest and also help the receptionist managing things regarding the hotel booking process. Although the system is not fully achieved the requirements due to the unsolved issues and errors, but never take it or think the challenging path as a failure. Some recommendations to upgrade and improvise the system are fixing the staying date issues which are the user/guest can set the date for their staying in the hotel and occupancy, upgrading the system by developing a cancellation features, and also adding online payment module for a fast and smooth booking transaction process. The challenges have become a lesson that need to improvise steadily for the better in future.

Acknowledgement

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