DOCUMENTATION OF ONLINE BOOKING SYSTEM

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First of all, I would like to thank my lecturer **Mr. SHUM YEW MUN** for helping me to acquire some basic knowledge of "Introduction to Software Engineering". At the same time, he gave me the opportunity to learn something new related to our module like UML (Unified Modelling Language).

Beside from my lecturer, I like to thank my other classmates for helping to understand the assignment related questions more clearly. They gave their best for completing this report on time. I thank them for their effort.

1.0 INTRODUCTION

EAZY BOOKING is an tourist agent which provides the facilities for booking hotels, ins, houses, holiday apartments and other accommodations' for customers. They operate their business in Malaysia, Singapore and other South East Asia. Any customers need to book hotel, ins or apartment they need to visit their office which is situated in Bukit Jalil for checking the availability as well as negotiation. Recently they have decided to change their booking pattern from manual to web based system. It will help them to manage the customers booking easily and also to keep the customers data more safe. It will also help staffs to keep in track their customer's online booking request as well as easily to reply feedback to the customers. For that they hired a developer to build the web system for this reputed company. In this documentation it shows how the web based system will be implemented and looks like (User Interface).

2.0 GANTT CHART

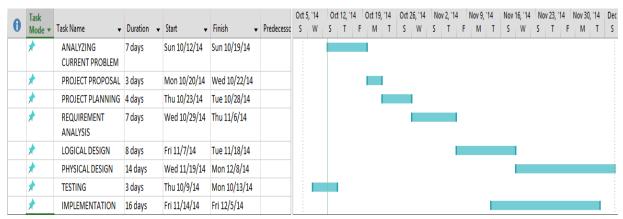


FIGURE 1: GANTT CHART

3.0 PROBLEMS OF CURRENT SYSTEM

As *EAZY BOOKING* is having manual booking system, they are facing some problems issuing booking requests of customers. All the necessary booking stuffs are being done in hard copy. So it become much difficult for staffs to keep the records updated all the time. As for example, if the customers need to change the check in date it become difficult for them to find out the customers booking details for updating as there are so many customers booking records. Again, regarding current system customers cannot give feedback online and also staff cannot reply to them promptly. Besides tourists from other South East Asian counties need to call directly for booking purposes. So they cannot get the chance to view their apartment rooms or hotels rooms before they make book.

4.0 REQUIREMENT ANALYSIS

Functional Requirements

- The system supports customers booking and able to modify them
- Customers can search based on hotel, apartment, inns (ex. Radisson, Singapore)
- When a customer search for hotels, apartment, and the search result must contain hotel or apartment information (Address, Ratings, and Price) and also its availability within choosing check in and check out date.
- Customers able to cancel their booking from their account.
- Staffs able to edit customers booking information (updating check in, check out, room preferences, bed preferences and also cancelling booking).
- Customers can book online and pay with credit or debit card.
- The system must send booking confirmation email after successful payment.
- Customers can write reviews about hotels and apartment and also rate them.
- Customers able to check their booking status from their individual account.
- Customers can send feedback or call the company for booking purposes.
- Customers can check for latest promotion or deal.

Non-Functional Requirements

- The system must ensure that all the transferable data as for examples customers credit or debit card number, CVV Code, e-payment should be done in secured connection.
- The system must be able to handle multiple transactions a time.
- The system must provide customers 24*7 hours online booking service.
- The system should support almost all the browsers (Internet Explorer, Safari, Chrome, and Firefox).
- The system should be able to convert the price from Malaysian to USD and SGD.
- System should send the newsletter about ongoing promotions or deal to registered customers.
- Customers need to cancel the booking before 24 hrs. otherwise their credit card will be charged for one day.
- In promotion time the system will charge credit card promptly.

5.0 UML DESIGN

UML design is the shortest form of "**Unified Modelling Language**". The purpose of this modelling language is to visualize the design of the system. There are total 14 types of UML diagram. They are:

- Class Diagram.
- Component Diagram.
- Deployment Diagram.
- Object Diagram.
- Package Diagram.
- Profile Diagram.
- Composite Structure Diagram.
- Use Case Diagram.
- Activity Diagram.
- State Machine Diagram.
- Sequence Diagram.
- Communication Diagram.
- Interaction Overview Diagram.
- **&** Timing Diagram.

Here we will show only 2 diagrams out of 14. For that we have chosen "Use Case Diagram" & "Class Diagram".

Class Diagram

This is the most used UML diagram in the field of software engineering design. It is called as a main building block of any object oriented solution. Usually it illustrates the classes in a system, attributes and operations of each class and also the relationship between each class.

Below is the "CLASS DIAGRAM" of our new proposed system.

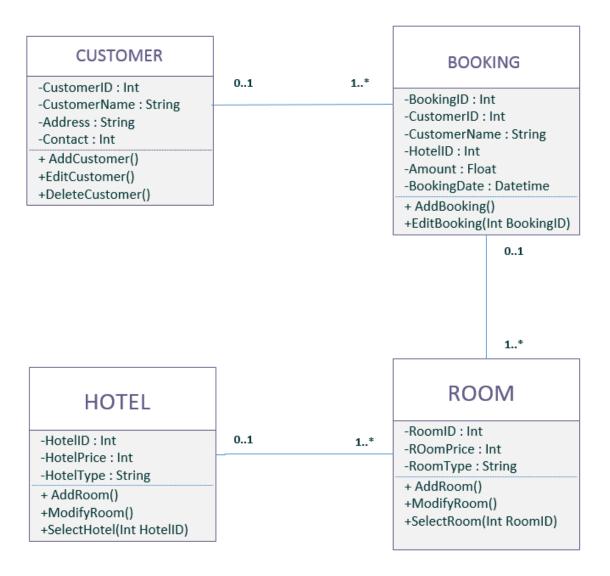
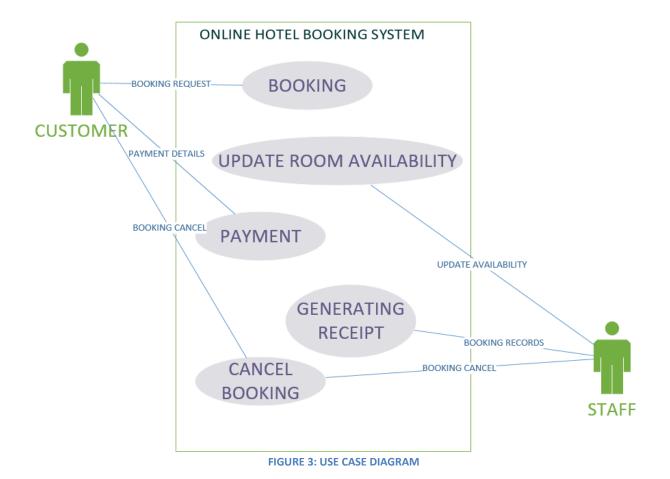


FIGURE 2: CLASS DIAGRAM

Use Case Diagram

It is also called behavioral UML diagram. It gives a graphic over-view of the actors involved in a system directly. It shows how different functions needed by the actors how they are interacted.

Below is the "USE CASE DIAGRAM" of our new proposed system.



Name:	Booking
Actor:	Customer
Description:	Describe the process used to add a new booking
Successful Completion:	1. Customers can book
	2. Staffs enter the customers details into the database
Alternative :	None
Precondition:	Customers registered as a member

Post condition:	Room is booked by customer
Assumption :	None
Name:	Update Room Availability
Actor:	Staff
Description:	Can update the availability of hotel's room
Successful Completion:	1. New availability for hotel's room
	2. Staffs enter the available room details into the database
Alternative :	None
Precondition:	Staffs update the system entering new room availability
Post condition:	Customers can see the latest availability of hotel's room
Assumption :	None

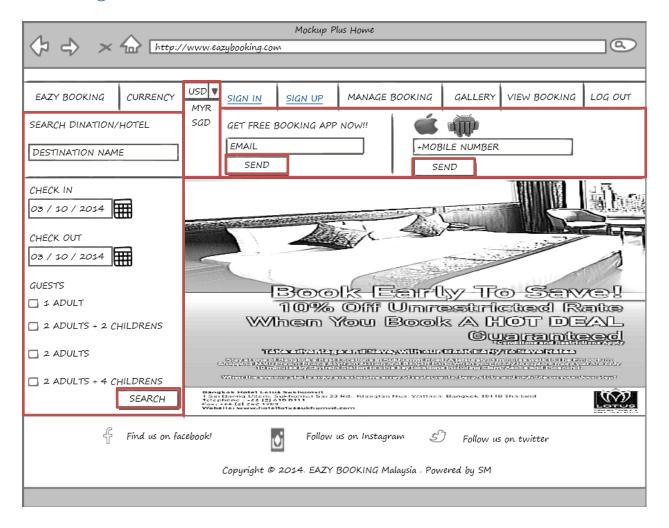
Name:	Payment
Actor:	Customer
Description:	Describe the process of payment through the system
Successful Completion:	1. Customers will receive the invoice
	2. Staffs enter the customers payment details into database
Alternative :	Pay after arrive into the destinations
Precondition:	Customers registered as a member
Post condition:	Room is booked by customer
Assumption:	None

Name:	Generating Receipt
Actor:	Staff
Description:	Describe the process used to generate the booking details
Successful Completion:	1. Staff can check the booking details
	2. Staffs will keep the copy of the generated receipt
Alternative :	None
Precondition:	
Post condition:	Room is booked by customer
Assumption:	None

Name:	Booking
Actor:	Customer
Description:	Describe the process used to add a new booking
Successful Completion:	1. Customers can book
_	2. Staffs enter the customers details into the database
Alternative :	None
Precondition:	Customers registered as a member
Post condition:	Room is booked by customer
Assumption:	None

6.0 PHYSICAL DESIGN

Home Page



Above figure 1 shows the home page of "EAZY BOOKING" web based system. This interface contains Booking Search, Currency Converter, Sign In, Sign Up, Manage Booking, Gallery, View Booking and Log Out. Although in this interface Log Out in showing as a navigation bar but it will appear after Log In of customers or staffs. Although "EAZY BOOKING" is having their own mobile app for Android and IOS, customers can get this free app by entering their email address or mobile phone number. So, it will be more convenient for customer to book directly using app from their hand phone. This is also contains the news of latest promotions available for customers. The Currency Converter is for those customers who wish to see the

currency need to be paid in their own country's currency. Below is the company's social link (Facebook, Instagram & Twitter). Customers can give their feedback on our social site also.

Sign Up (Customer)

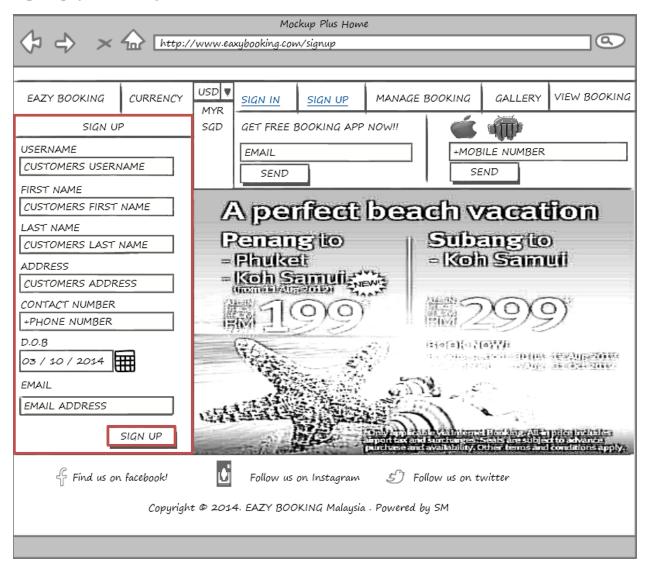


Figure 2 shows the *Sign Up* page for customers. From here customers can register to the system by providing their necessary details (*Username*, *First Name*, *Last Name etc.*). On the left of the interface users will see the flash motion of upcoming promotions. Customers will see some third party promotions like Zalora, Agoda and Air Asia.

Sign In (Customer & Staff)

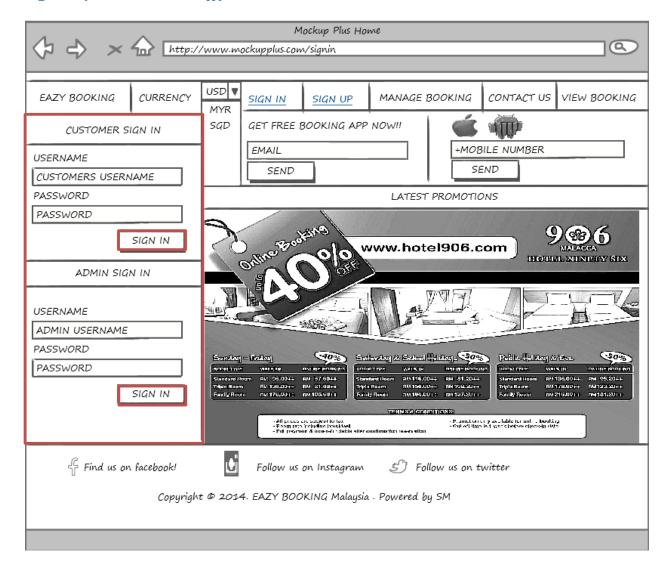


Figure 3 is showing the interface of system *Log In*. We create this Log In interface as a general for both customers and staffs. Although it is shows that there is no security level maintenance for staffs *Log In*, but the Log In form in directly connected with the database. So, whenever anyone wants to key in the *Username* and *Password*, it will read the data from database for matching purpose.

Booking Availability

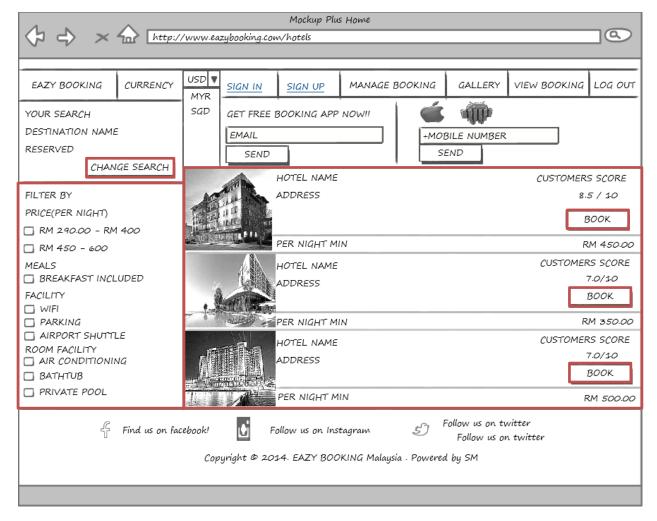


Figure 4 showing the interface of hotels, apartments, inns, availability according to customers chosen dates. This interface will appear after customer select their destinations, dates, check in & check out from *Home Page*. After clicking *Search* button, the system will appear this web page to the customers. From here, customers can **filter** the page by selecting the price range, hotel facilities, room facilities etc. For further reference they will be able to see the ratings of the hotels, apartments given by other tourists. The individual price will also appear below teach hotels. After choosing the hotels they can click on the *Book* button for booking. Besides, if they want to change the date, check in and check out, they just need to click on *Change Search* button. It will appear the below interface.

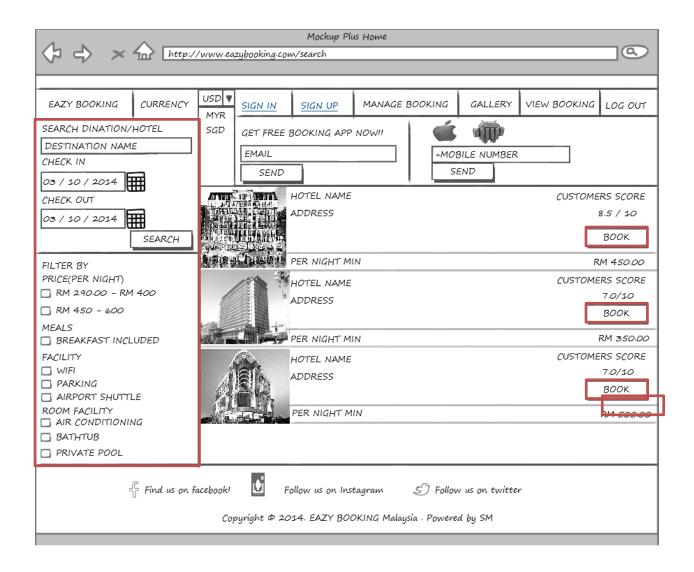


Figure 5 shows the interface after customers made the changes of date, check in and check out before booking. When they search for destinations with new check in and check out, the availability of hotels will change automatically including the destinations. It will appear the hotel price, customers score. This page also has the facilities of filtering according to selected facilities by the customers.

Hotels Description

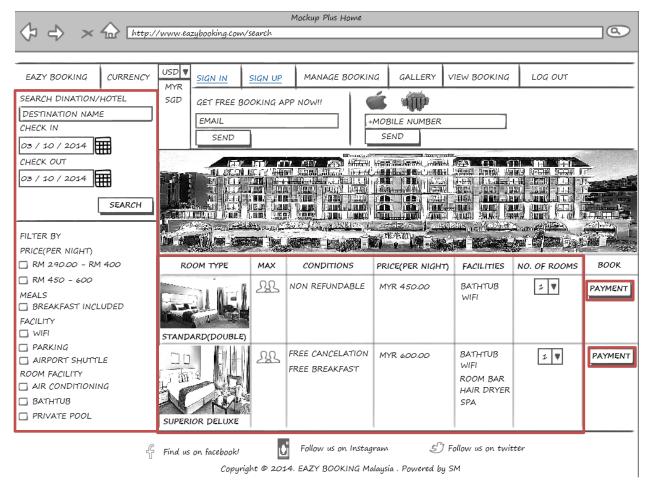


Figure 6 shows the interface of hotel descriptions. In this interface users can view *Hotel Room Type*, *Max Capacity*, *Conditions*, and *Price per Night*. Customers can also add more room if they want. Depending on the rooms the total charges will be changed. For *Payment* process they need to select how many room they want to book per night. For selecting more room customers need to click on the drop down menu and choose. Here the prices varies depends on the facilities available in the room. Customers can also see the pictures of rooms (standard and superior) of selected hotel. For superior and deluxe the maximum capacity for staying is 2 guests.

Payment

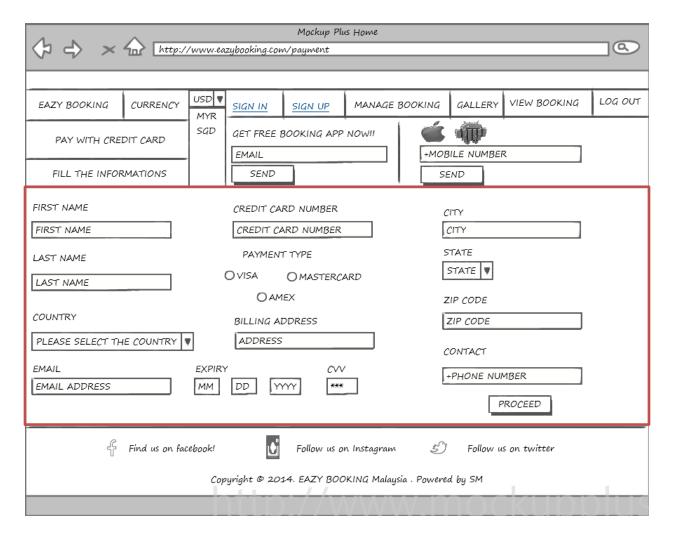
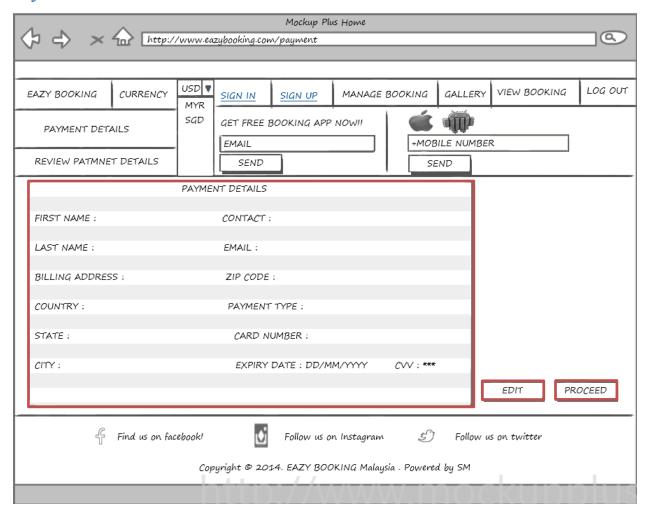


Figure 7 shows the *Payment* page of "*EAZY BOOKING*". Here customers need to enter their credit or debit card details including the *CVV* (Security Code). Customers should make sure they enter the valid details otherwise the system will not allow them to proceed for booking. Here customers can also choose which type of credit card (VISA, MASTERCARD or AMEX). After giving all the valid necessary details they have to click the button "PROCEED" for check out the details before completing payment. They need to type valid email address and phone number (country code included). Otherwise the payment confirmation will send it to invalid email address or may not be able to receive by the customers. The system will not remember the CVV code of customer's credit cards.

Payment Details



Booking Confirmation

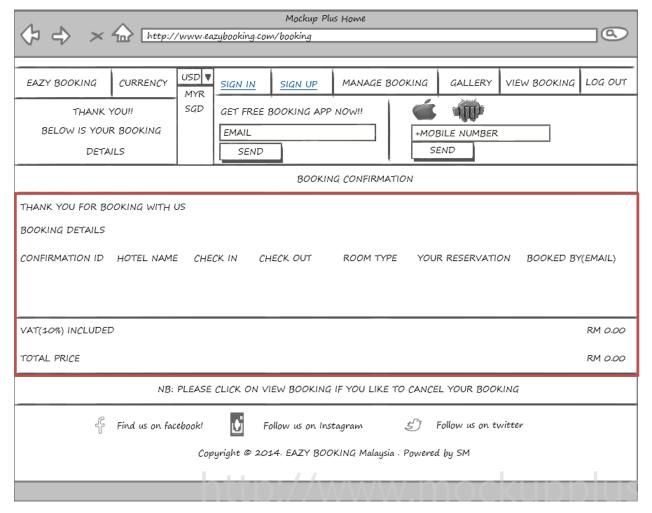


Figure 9 shows the customers *Booking Confirmation* generated by the system automatically after successful payment along with the payment details. Customers can also print the booking confirmation page if they want to. Besides, the confirmation mail will be send to customers registered email address.

Cancel Booking (Customers)

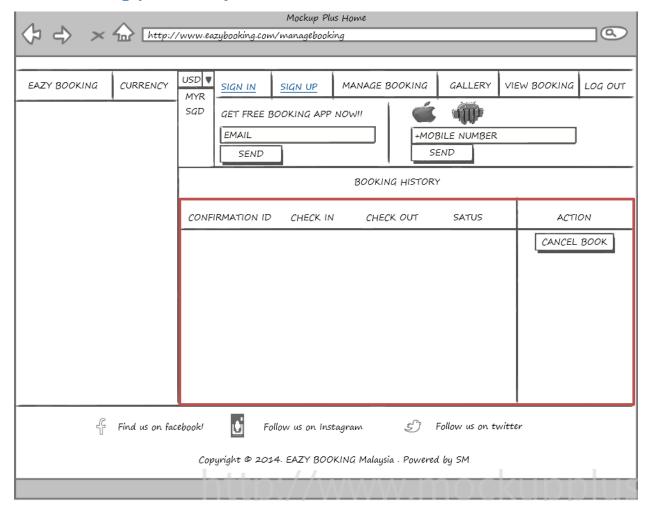


Figure 10 shows the interface of customers booking where they can cancel their booking if they wish to. By clicking the button "Cancel Book" it will delete their booking information from their individual account. Besides, confirmation of "CANCEL BOOKING" will send to customers registered email address. The cancel booking button will appear depending on the number of booking customers made from their account.

Editing Booking (Staff)

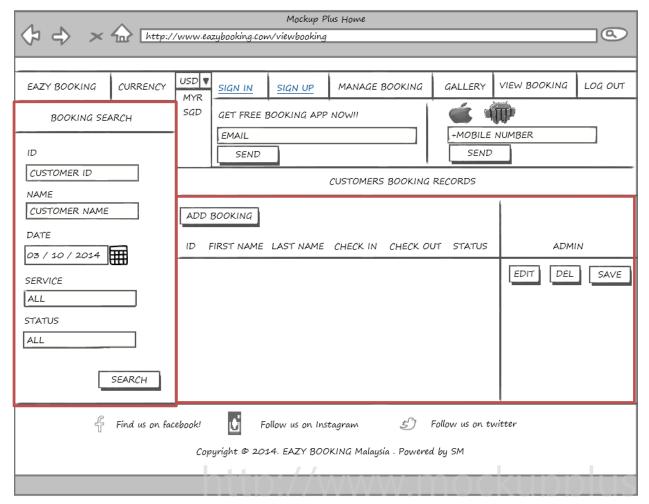


Figure 11 shows the web page of customers booking editing by the staffs. From here staffs can edit the customer's details as well as can add more booking into the system. Again, they can also search individual customers booking for managing purposes. From this page staffs can also delete individual customers booking records. After completing all necessary editing, they can save it to the database.

Contact Us

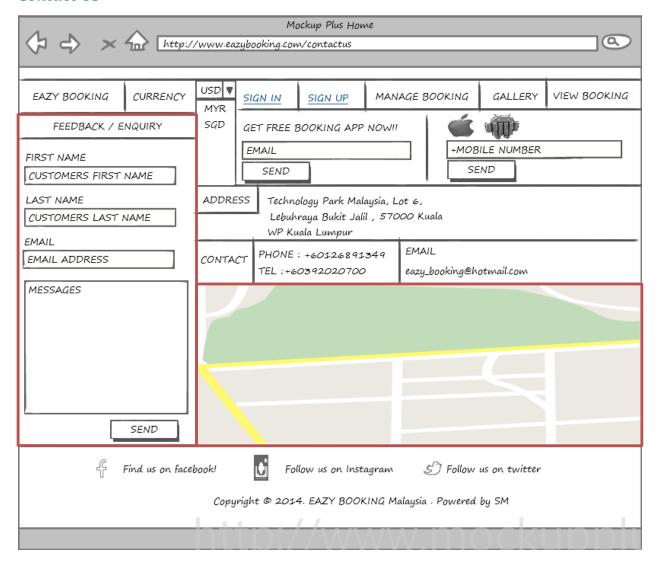


Figure 12 shows the "Contact Us" page of "EAZY BOOKING". From here customers can get the contact number as well as address of the company. They can also send the enquiry through the system directly to the company. They have to make sure they enter their details correctly like email address, name. Later the reply will be send by the staff through email address to customer's inbox. Below is the geo location of EAZY BOOKING. If customers wish to visit their head office they can simply follow the information from it.

7.0 TEST PLAN

Test Case 001

- Test Title: Eazy Booking Icon
- **Test Procedures:** Click on the icon.
- **Test Data:** Users need to click on the icon bar.
- **Expected Result:** It will redirect to the system home page.

Test Case 002

- Test Title: Customer & Staff Login.
- **Test Procedures:** Type username & password.
- **Test Data:** Username & password must be in alphanumeric. Otherwise system will show error (ex. Please enter valid alphanumeric data).
- **Expected Result:** It will redirect to login page.

Test Case 003

- Test Title: Sign Up
- Test Procedures: Click sign up page.
- **Test Data:** Input customer's information and click on the button "SIGN UP".
- **Expected Result:** It will register new customer.

Test Case 004

- Test Title: Search.
- **Test Procedures:** Type destinations name with selecting check-in and check-out.
- **Test Data:** Valid destinations name with date.
- **Expected Result:** System will search according to customer's choice.

Test Case 005

- Test Title: Manage Booking.
- **Test Procedures:** Click on the link "*Manage Booking*".
- Test Data: Add, Edit, Del & Save button.
- **Expected Result:** Staffs can edit, add and Del individual customers booking records.

Test Case 006

- Test Title: Username & Password
- **Test Procedures:** Enter customers or staffs valid username (Upper Case and Lower Case) and password (Alphanumeric).
- **Test Data:** Invalid password will show the warning message (Please Enter Valid Password).
- **Expected Result:** The system will follow the validation pattern.

Test Case 007

- Test Title: View Booking Cancel Button
- Test Procedures: Customers need to sign in and can cancel the booking when they press cancel button.
- **Test Data:** Cancel their particular booking record.
- **Expected Result:** Will cancel their booking records from database.

Test Case 008

- Test Title: Change Search
- Test Procedures: Customers can change their search according to changing their check in, check out and destinations.
- **Test Data:** Click on the button "**Change Search**" from hotels availability page.
- **Expected Result:** Customers can select their new check in and check out date with destinations.

8.0 IMPLEMENTATION

System implementation is the most important steps in case of finalizing the approved web system. We need to justify some basic requirement (software & hardware) so that the system will work without having obligation and customers dissatisfactions.

Software Requirement:

- Operating System: Windows (XP, 7, 8, 8.1) or Mac OSX (Tiger, Leopard, Snow Leopard, Lion, Yosemite).
- Web Browser: Google Chrome, Internet Explorer (ver. 8 or later), Mozilla Firefox, Safari (Mac).
- Database Management System: MySQL, SQL Server, Microsoft Access, Oracle.
- Web Development System: Visual Studio 2010 or later, Adobe Dreamweaver, Notepad, and Notepad++.
- Others: .NET FRAMEWORK.

Hardware Requirement

- **RAM:** Minimum 1GB or higher.
- **HDD:** Minimum 50 GB.
- **Processor:** Intel Pentium 4 or AMD.
- **LAN:** Version 1.6.6.406(For fixing up client disconnection).

9.0 LIMITATIONS

Although this system will provide the booking facilities to customers, it is having some limitations. In case of enquiry when customers send their feedback through the system, it will go directly to the staff mailbox. It means the system don't have the separate web page for checking all the customers enquiry and send reply promptly. Besides the system also don't have the online banking (MayBank2U, CIMBClicks, PayPal) for customers.

10.0 CONCLUSION

The system is having some benefits for customers too. In home page customers can put their email address or phone number for downloading the booking apps directly on their phone. The application will work for both OS Platform (IOS & Android). By this customers can book by using this application. Besides, customers can also book online without registering into the system. Again, customers no need to worry for payment. But for reservation they need to key in their credit card details for verification purposes. It will not charge them promptly. So, overall this system will give the customers a better user friendly environment to book online.

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