VACATION RENTAL SERVICE SYSTEM

 $\mathbf{B}\mathbf{y}$

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled "Vacation Rental Service System", submitted by Nafiz Mahamud (ID:151-15-4777)& Shaidul Hasan (ID:152-15-5979)to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of BSc in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 7thAugust, 2018.

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ABSTRACT

This project is on "Vacation Rental Service System". At the time of more online collaboration and tremendous use of information technology in all spare of our everyday activities, tour is becoming very popular by booking the desired lodge in online. There are many popular booking site like booking.com, airbnb ,which act like a broker by providing lodge to the tourists. In this system we attempted to develop such a rental system for the development. Our project is totally focused on the perspective of Bangladeshi users. An user can advertise and also can book a lodge.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Our Project short name is VRSS. It is an online marketplace and hospitality service for people to rent short term lodging including hotel beds, hotel rooms, apartments and tents to participate in or facilitate experiences related to tourism such as walking tours and to make reservation at restaurants. We don't have any real state. It acts like a third party which receives percentage service fees in conjunction with every booking.

1.2 Objectives

The main objective of our system is to provide lodge to the tourists. Only registered public can book a lodge and also they can advertise for a particular lodge to rent.

The goals of our system are:

To provide Hotel Room

Provide Tent in Specific Places

List of good restaurants according to the demand

Apartment for rent

Provide smart google map integration

Make profile of Customers or registered public

Provide Secure payment system

1.3 Motivation

Today is the era of science and technology. Many things have been changed the world, also changing our life style day by day. Internet,

Smartphone bring a great change in our daily life and making our lifestyle more and more easy than before. Now people want to do their necessary works in a easy and comfortable way. The main motivation of our project is also provide a smooth way so that people can easily book a hotel room and can easily find their destination by using Google map. They also can find their desired restaurant, hire a house easily even staying at home. This decrease their travel cost as

well as harassment. Their communication with other people for those purposes will be more comfortable and less time consuming. Owner of these house or hotel also can income in a easy way. Above all it will be more secure and comfortable to both customer and owner for book or rent.

1.4Expected Outcome

In our project, we mainly focus on to provide accommodation to the tourists. And our project will help in different aspects to the people.

Some benefits are given below:

Accommodation will more easier

Cost will reduce

Make some income

Less time spent

1.5 Report Layout

We all know, practical knowledge is more important than theory. In our graduation degree we learn a lot of things. This project gives us scope to share our knowledge and utilize our thought. By doing this project we can implement our skill more effectively.

First Chapter contains the Introduction, Objectives, Motivation, Expected Outcome and Report layout of our project. Then second chapter contains Project Introduction, Related works of our project. Our third chapter contain all about Requirement Specification which are Use Case Modeling and Description, ER diagram, Design Requirements.

CHAPTER 2

BACKGROUND

2.1 Introduction

Vacation rental service is the application of project management to the creation and development of tour in our country.

Vacation Rental Service System provides many services like to advertise for a hotel room or restaurant or any historical place or tent situated on a specific place, location shown on the Google map, price for a particular lodge, communicate with others and more. Tour is becoming very popular day by day and foreign countries earn very well from the tourism. Many countries decorated their tourist place very well so that people get more interested to visit that place. And many restaurants are also situated near that tourist place to run good business.

2.2. Seasonal Tour

Each year have a particular season for tour. Many people are interested to go for a tour in spring or winter. Basically no one wants to go for a tour alone. There are many kinds of tour like family tour, friend tour or honeymoon.

2.3 Related Works

Advertisement creation for a tour, submit information of tourists, payment processing, registration process, hotel room booking, restaurant booking, tent booking.

2.3.1 AIRBnB

Airbnb is a popular website for tour management system. They act like a broker to manage accommodation and people can rent a lodge to income. The payment system of airbnb is online base. They use google map to show the location. Their service is so satisfied that's why people enjoy to booka lodge through airbnb.

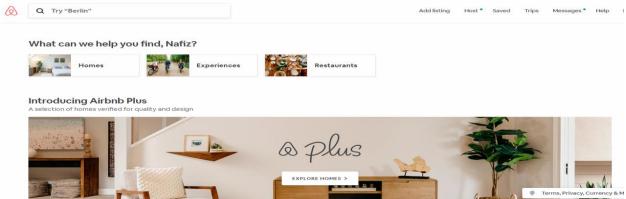


Figure: 2.1 AirBnb Site

They use different currency for paying purpose and customer services. In their website people can communicate with each other.

2.3.2 Booking.com

Booking.com is also very popular web site for global tour system. They serve many kinds of accommodation like aibnd and also their service on taxis ,car etc.

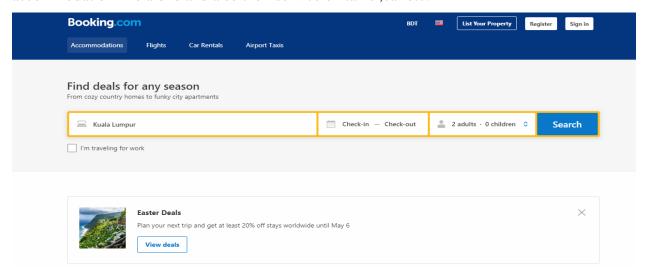


Figure: 2.2 Booking.com site

Their search functionality is more useful. They use different types of currency and they show the location in google map also.

CHAPTER 3

SOFTWARE REQUIREMENT SPECIFICATION

3.1 Business Process Model

Our business model will be monthly or yearly license-based fee. We will also provide custom licenses on demand. There will be two main types of licenses, "Business" and "Education". There will be special discount on "Education" licenses and will be provides only to the universities, academic clubs and non-profit organization upon verification. There will be an absolutely free license for every clubs of Daffodil International University.

3.2 Use Case Model

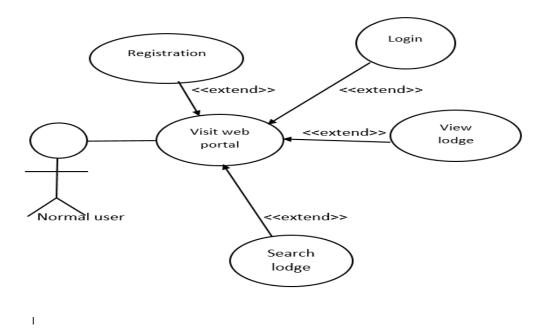
Use case model describes how different types of users interact with a particular system. It shows user the functionality of a particular feature. Use case uses in software company as o model of a system and also requirements. It contains packages that are used to structure the model to simplifying, navigation, maintenance and planning for a specific system. It also uses as the primary specification that are associated with each case model element.

System Use Case:

The system has the following set of use cases. Figure: 3.1 is describing the System use case. A normal user can visit our web site without any restriction and see all the lodges show there and can see teir location on google map. An normal user can search lodge by the location name where they want to stay. But a normal user can't book a lodge or can't provide an advertisement. For that , they have to be registered. A registered user can search lodge(homes, restaurants, tent, places) by the location name and also can reserve a lodge. They can provide an advertisement to rent. An registered user can his/her two own profiles.

One is booking profile where he/she can see the numbers of lodge advertisement list and when the booked or not and also he/she can see the numbers of lodges he/she reserved and when .

System Use Case: 3.1: A normal user can visit our web portal and he can \log in, view \log and register and also search \log by the location



A registered user can select a lodge ,can book a lodge and also provide advertisement to rent

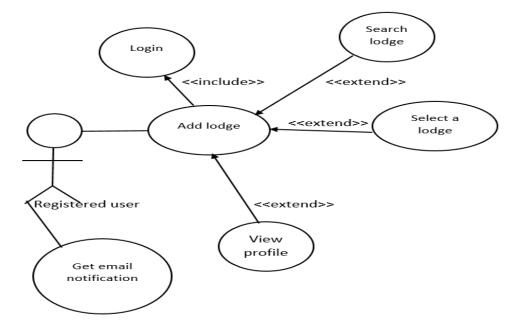


Figure: 3.1 System Use Case

 $\underline{\textbf{Use case of LOG IN for Normal User}}$: User can log in our web page by providing email and password

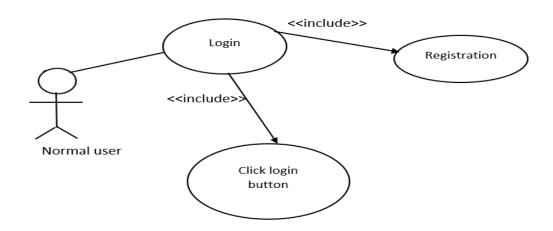


Figure: 3.2 Log In for Normal User

Use case details:

Use case name: Login

Actor: Normal user

Precondition: User must be registered

Primary path: 1) Enter email.

2) Enter password.

3) Click login button.

Exceptional path: Invalid email or password.

<u>Use Case of Advertisement(Add Lodge) for Registered User</u>: After Log in successfully User(Registered) can provide an advertisement for a lodge to rent. Figure 3.3 describes Add Lodge Process in the use case

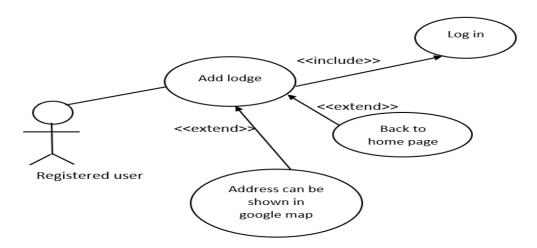


Figure: 3.3 Add Lodge for Registered User

Use case details:

Use case name: Add Lodge

Actor: Registered user

Precondition: User must be logged on

<u>Primary path:</u> 1)Required field: a) Lodge name. b) Lodge type. c) Rental problems. c) Location. d) Guest numbers. e) Bedroom numbers. f) Bed numbers. g) Bathroom numbers.

h)Begin date. i) Ending date. j) Rental time. k) Price. l) Photos. m) Email.

- 2)Optional path: a)Address. b) Latitude. c) Longitude
- 3) Click 'show' button to see the address in google map.
- 4) Click 'create' button to create the advertisement.

<u>Use Case of Book Lodge for Registered User</u>: In our web site a registered user can select a lodge and book that lodge. Figure: 3.4 shows that in use case

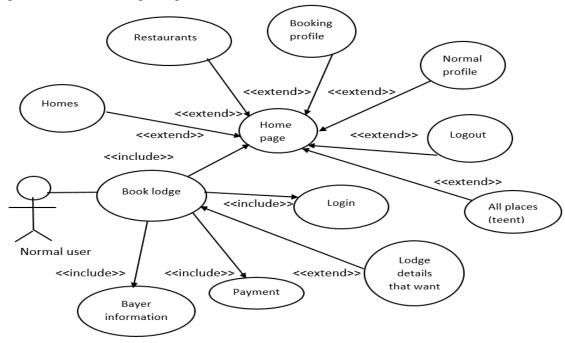


Figure: 3.4 Book Lodge for Registered User

Use case details:

Use case name: Booking a Lodge

Actor: Registered user

Precondition: 1) User must be logged on

2) Valid account for online paying

3) Have internet connection

Primary path: 1) Bayer information:

a) Bed rooms. b) Bed numbers. c) Members. d) Booking date. e) Going date. f) Buyer address. g) Email. h) Click save button.

Exceptional path: Invalid pay account.

<u>Use Case of Registration for Registered User</u>: By filling the required user can complete the registration process

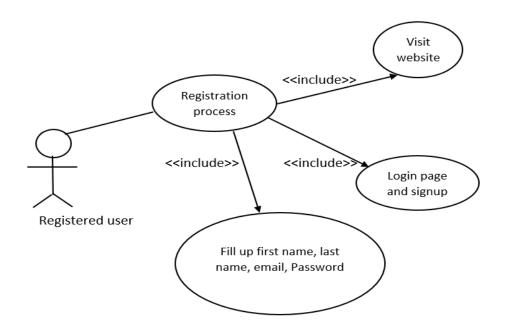


Figure: 3.5 Registration_for Registered User

Use case details:

Use case name: Registration

Actor: Normal user Precondition: None

Primary path:1) First name

- 2) Last name
- 3) Email
- 4) Password
- 5) Click submit button

Exceptional path: Invalid email.

<u>Use Case of Google Map Integration for Registered User & Normal User</u>: All

the locations base on lodge categories like homes, restaurants, places etc are shown in the google map with price on map customized icon. Use case of Figure: 3.6 shows the functionality of google map integration

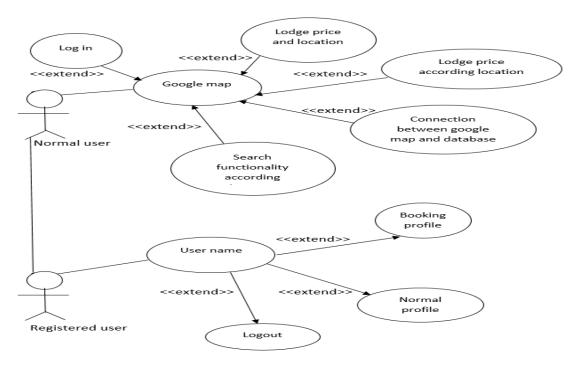


Figure: 3.6 Google Map Integration_for Registered User & Normal User

Use case details:

Use case name: Google map integration

Actor: Normal User, Registered User

Precondition: Internet connection

Primary path: 1) Login

2) Select a particular lodge

3) Click on map icon

<u>Use Case of Booking Profile for Registered User</u>: Booking profile contains the total number of lodges that are booked or not booked and select booking profile shows the time when the particular lodge were booked. Figure: 3.7 describes the features in use case model

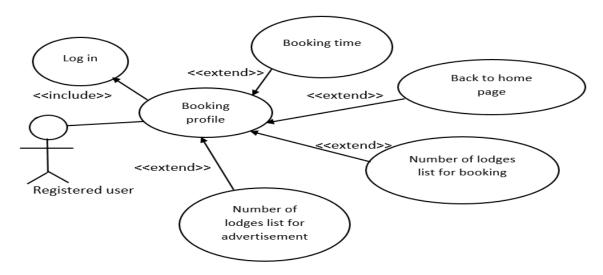


Figure: 3.7 Select Booking Profile_for Registered User

Use case details:

Use case name: Booking profile

Actor: Registered user

Precondition: User must be logged in

Primary path:1) Login

2) Select booking profile

<u>Use Case of normal Profile for Registered User</u>: Select normal profile will bring you a page where you can update your personal information. Use case of Figure: 3.8 explain that features.

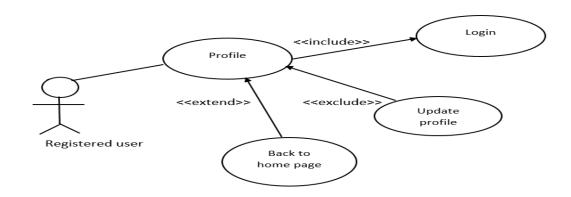


Figure: 3.8 Select Normal Profile_for Registered User

Use case details:

Use case name: Normal profile

Actor: Registered user

Precondition: User must be logged in

Primary path: 1) Login

2) Select profile

<u>Use Case of Select a lodge(home) for Normal User</u>: A normal user can see the details of lodge but he/she can't book a lodge or rent a accommodation. For that he/she have to register. Use case of Figure: 3.9 demonstrate that functionality and restriction

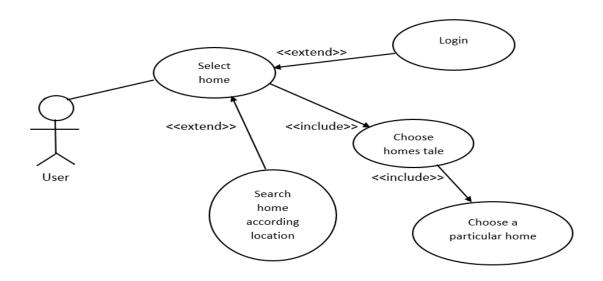


Figure: 3.9 Select a lodge(home) for normal User

Use case details:

Use case name: Select a home

Actor: User

Precondition: None

Primary path: 1) Type a location name

2) Select a particular home

3.4 ER Diagram

Figure 3.10 describes ER Diagram of this project which representing the relationship among the entities. They are: Home, Registration & Booking. Each entity has its own attributes.

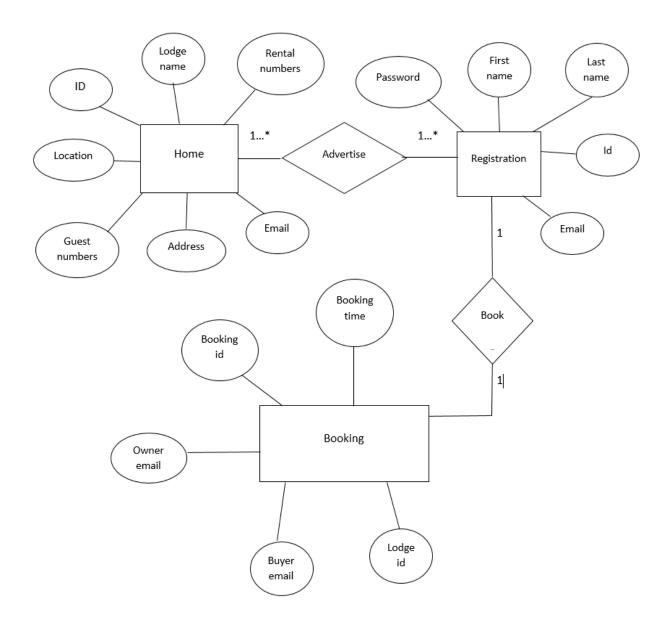


Figure: 3.10 ER Diagram

3.3 Implementation Requirements

Before any project could be done one thing first comes in our mind that which technologies

should be used to complete the project. Among various technologies we pick different kinds of

technologies for both back-end and front-end development.

Back-End development

=>Framework : Asp.Net MVC5

=> Language: C#

Front-End development

-- Javascript

--JQuery

--CSS3

--HTML5

--Bootstrap

Database: SQL Server

Asp.Net MVC5

Asp.net mvc5 is a web development framework of dot net(.Net). It is an open-source web

framework. It contains three basic structures.

1. Controller

2. Model

3. View

Controller: It handles the back-end development code and interact with database and views.

Model: A model represents the database meaning build a connection with database like SQL

Server.

View: Views are user interface. The web page viewed in front of user. It displays the system on

browser and user can interact with the system through views. [1]

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C#

C# was designed by Anders Hejlsberg, and its development team is currently led by Mads

Torgersen. It is an object-oriented-programming(OOP) language using in asp.net framework. It

has many building function and very easy syntax to learn. [2]

HTML5

Hypertext Markup Language (HTML) is used for creating web pages and web applications. It is

used for fetch the design on web browser page. It displays the document on web browser exact

same as we want. Actually web pages are formatting with HTML. There are so many tags in

html which are using for different purposes. Web browsers received html document from the

server or computer local storage and render that document into web browsers. Remember that

html is not a programming language. All the browsers support html. ^[5]

CSS3:

Cascading Style Sheets (CSS) and the different ways it could be used to control both layout and

style of the site. It mainly used for designing the web page.. To mark a html tag in CSS there is

class and id attribute. Many attributes are used to develop a responsive and attractive web page.

CSS can be used in three ways

1. External: CSS will be in a different file and link with the html file

2. Internal: CSS will be in the same html page

3. Inline: CSS will be in html tags. [6]

jQuery:

¡Query is a fast and comfortable library of javascript created by John Resig in 2006. It is used to

handling event like animation, traversing and ajax method which can connect with database.

Jquery reduces the javascript code and it has many plug in for different purposes tasks.

There are two ways to use Jquery.

1. Local Installation: We can download jquery library in our local machine and by plug in

our web page we can use that

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2. Use CDN: CDN is very useful way to use jquery. It works all over the system.But it requires internet connection.^[4]

Javascript

Javascript is a programming language of both html and web.It is a light weighted interpreted language. To create more responsive and more interactive javascript is must. A lot of event handlers are exist in javascript and by using javascript we can change our html document. It means that javascript has a control on html document.

JavaScript was invented by Brendan Eich in 1995, and became an ECMA standard in 1997. ECMA-262 is the official name of the standard. ECMAScript is the official name of the language. [3]

Bootstrap

Basically bootstrap is a library of CSS. It is an open source toolkit for developing with HTML, CSS, and JS. It makes UI more responsive easily. Responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery.

Bootstrap, originally named Twitter Blueprint, was developed by Mark Otto and Jacob Thornton at Twitter as a framework to encourage consistency across internal tools. ^[7]

MS SQL SERVER Database System

Database system means collection or store or manage of data. It contains tables, stored procedure , sql query etc.

In SQL Server, there are two types of database systems are available.

1.System databases 2.User Databases

System databases are created automatically when we install MS SQL Server.

There are some system databases are given below:

- 1. master
- 2. model
- 3. msdd
- 4.tempdb

User databases are created by users (Administrators, developers, and testers who can access to create databases). [8]

CHAPTER 4

DESIGN SPECIFICATION

4.1 System Environment

The Design & Development of Vacation Rental Service System has two active actors. Figure 4.1describe the system environment. The Registered and Normal user, all actors can access the system through web link. Every member has one login id and password through which they can access the system. User also can use the system by their login id and password.

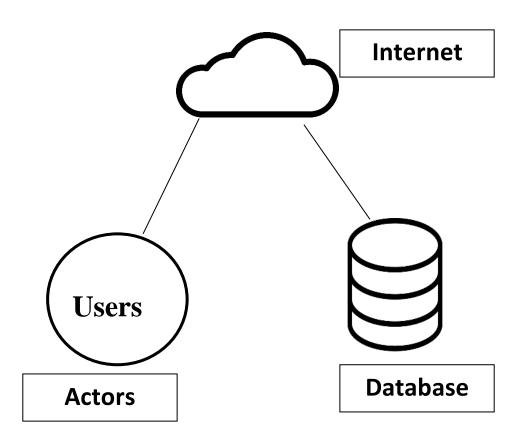


Figure: 4.1 System Environment

4.2 Front End Design Home Page

Figure 4.2 shows our home page where a normal user can search for a lodge by the location name. And there are three categories lodge homes, restaurants and places(tent, historical places). In that page user can log in through email and password.

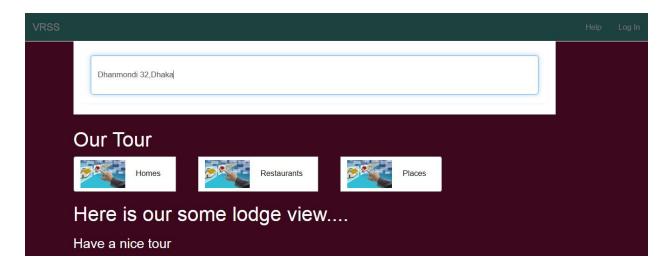


Figure: 4.2 Home Page

Log In Page

User can log in through email and password to book lodge and rent lodge. Figure: 4.3 displays the log in page.



Figure: 4.3 Log In Page

Registration Page

To log in user must be registered first. Figure: 4.4 shows the registration page



Figure: 4.4 Registration Page

Booking Profile Page

In this page registered user can see the lodges list that he/she was booked or rent and also can see the time of booking and rent time. Fig: 4.5 show a portion of booking profile.

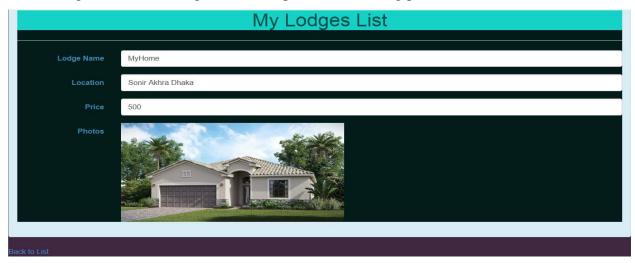


Figure: 4.5 Booking Profile

Profile Page

This page displays the user personal information. Fig:4.6 is showing the profile page



Figure: 4.6 Profile Page

Lodge Location In Google map

In this page, all the lodges that are in homes categories and not booked showing and their price also show on the google map according to their location. When a user mouse over on a left side home information the icon color will be changed according to that homes location. Fig:4.7 shows that page.



Figure: 4.7 Location In Google Map

Lodge Details Page

The page shows the lodge details, by seeing this a user can reserve that lodge. Figure:4.8 shows the details page.



Figure: 4.8 Lodge details Page

Booking Information page

In this page a user provide his/her information to reserve that lodge. Left side information is that lodge that he /she is going to book and right side is buyer information.

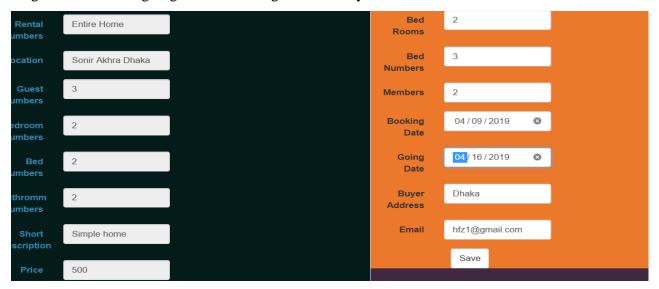


Figure: 4.9 Booking Information page

4.3 Back End Design

Fig: 4.10 shows Home table where all types of lodge advertisement will be stored

Column Name	Data Type	Allow Nulls
ID	int	
Lodge_Name	varchar(100)	
Rental_Numbers	varchar(100)	
Location	varchar(50)	
Guest_Numbers	varchar(50)	
Bedroom_Numbers	varchar(50)	
Bed_Numbers	varchar(50)	
Bathromm_Numbers	varchar(50)	
Short_Description	varchar(200)	
Price	varchar(100)	
Photos	varchar(MAX)	
Alter_Text	varchar(50)	✓
Lat	float	✓
Lng	float	✓
Address	varchar(100)	✓
Lodge_Type	varchar(50)	✓
Email	varchar(100)	✓
Begin_Date	date	✓
End_Date	date	✓
IsBooked	bit	•
Booking_DateTime	varchar(50)	✓
Buyer_BedRooms	varchar(50)	✓
Buyer_BedNumbers	varchar(50)	✓
Buyer_GuestNumbers	varchar(50)	•
Buyer_BookingDate	date	✓
Buyer_GoingDate	date	•
Buyer_Address	varchar(100)	✓
Buyer_Email	varchar(100)	✓
Total_Staying_Time	varchar(100)	✓

Fig: 4.11 shows Booking table where all the booked lodge unique number will be stored and shows the booking confirmation

		- Bailliannin	
	Column Name	Data Type	Allow Nulls
₽Ÿ	Booking_ld	int	
	Owner_Email	varchar(100)	✓
	Buyer_Email	varchar(100)	✓
	Owner_IsBooked	bit	✓
	Buyer_IsBooked	bit	✓
	Lodge_ID	int	✓
	Booking_DateTime	varchar(50)	✓

Figure: 4.11 Booking Table

Fig: 4.12 shows Registration table where all the registered members information will be stored

	Column Name	Data Type	Allow Nulls
•₽	id	int	
	First_Name	varchar(50)	✓
	Last_Name	varchar(50)	~
	Day	int	~
	Month	varchar(50)	~
	Year	int	~
	Email	varchar(100)	~
	Password	varchar(100)	~
	IsValid	bit	~

Figure: 4.12 Registration Table

CHAPTER 5 CONCLUSION & FUTURE SCOPE

5.1 Conclusion

The design of this **Vacation Rental Service System** is done with the help of **HTML,CSS,jQuery**, Asp.net(C#) and **SQL Server.Database system**. A normal user can visit our web site without any restriction and see all the lodges show there and can see their location on google map. An normal user can search lodge by the location name where they want to stay. But a normal user can't book a lodge or can't provide an advertisement. For that, they have to be registered. A registered user can search lodge(homes, restaurants, tent, places) by the location name and also can reserve a lodge. They can provide an advertisement to rent. An registered user can his/her two own profiles. One is booking profile where he/she can see the numbers of lodge advertisement list and when the booked or not and also he/she can see the numbers of lodges he/she reserved and when .

5.2 Future Scope

.This project can come up with some betterment in future like:

- 1) Software(supporting all platform) for it can be made.
- 2) It can be supplied for the international Use.
- 3) All the currency will be accepted.
- 4) People can connect with each other in our website.

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