Database Management System Project

Travel Information System

FINAL REPORT

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Submitted to:

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Index

INTRODUCTION

AIM

Whenever tourists want to visit any particular place in India its hard to get all the information regarding that place .Hence tourists (especially foreign tourists) will miss out on ‘the not so famous but equally beautiful’ tourist attractions in India. Our travel info system aims to be a comprehensive one stop solution to provide all the travel information related to a place. Hence tourists can plan their trips effectively with a good source of information about their destination. The information about a place includes few lines of‘About the place’, cost estimate of the place , pictures of the place, average user rating of the place, contact details of organization in charge of the place and so on. It also provides ratings to the places in the cities so that the tourists can have an informed decision and plan their trips better .This system will also develop a competitive attitude among the management of the tourist attractions and thus help improve its overall quality .Such an organized system would also help increase foreign tourist arrivals in India thus help the Indian tourism industry inline with the governments ambitious “Incredible India” initiative.

RELEVANCE

The project intends to provide the accurate information available at a place and help the users plan their trips efficiently. It does so by providing only required information about a place rather than advertising any place. Also since users can provide feedback about a place openly, the authorities of places try to provide their best services. Since the project is light windows application, this absolutely is faster and can be used as a pocket travel guide .

The system is implemented as 2-tier approach with a backend database handled by administrators and windows applications as front end clients. The system is implemented as two windows applications - one for users and the other for the administrators. Please note that administrators access database through admin application and do not handle database directly. So both applications work on the same database with no concurrency. This document will discuss each of the underlying technologies used to create and implement the travel info system.

To implement this we have used Microsoft Visual studio 2017 as a platform to build the application. Visual studio provides support to all databases like MySQL,ORACLE and Microsoft SQL server. Next, we have used visual basic for front-end implementation of interfaces. It provides a front-end development framework to create fully responsive app forms and define proper styles and presentation of the document. Next we have used vb.net for the backend design of the application. Lastly, MySQL is used as the back-end database since it is one of the most popular open source databases, and it provides fast data access, easy installation and simplicity.

REQUIREMENTS ANALYSIS

The project is an attempt to provide accurate compact information to tourists and it consists of the following users:

1) Users (tourists) - Use user side application
2) Administrators - Use admin side application

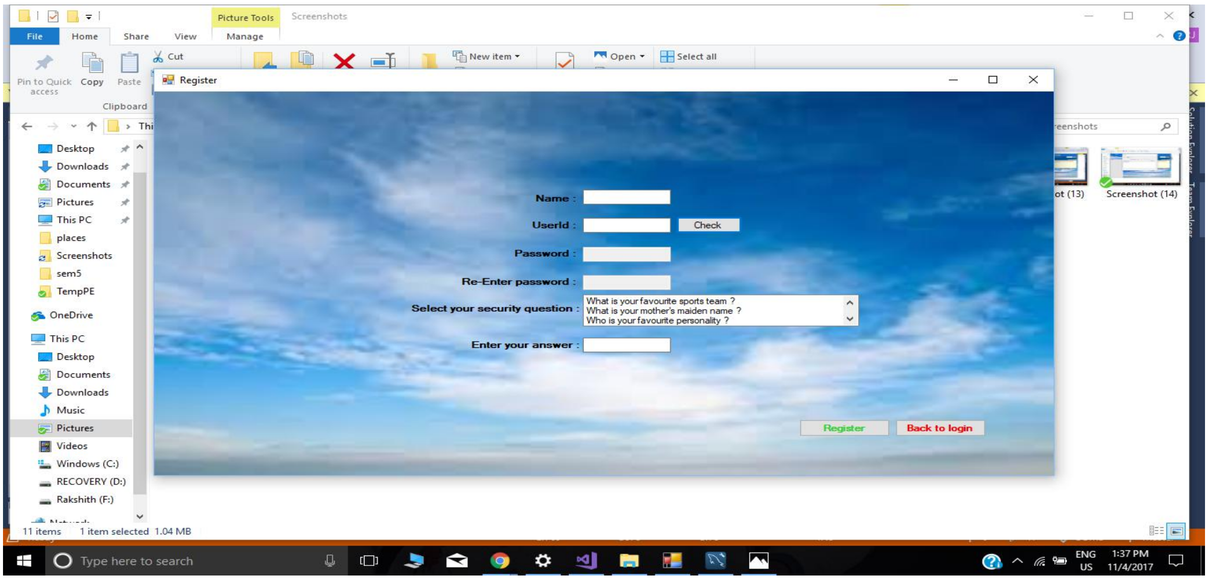
As the project is an attempt to provide users a better experience in gaining information about places, the built application provides numerous functionalities. From this, users get their information in an easier and faster way. The major functionalities provided by the User side application are:

1) User registration
2) User Login
3) Surf through cities and places
4) Write and read reviews
5) Upload images
6) Images slide show
7) Report errors

The data to be stored include the details of Users who add reviews and images, cities and places which also include images. The database also stores the information of administrators who verify and update the information in the database .

1.1 User registration

Before using the application, the user needs to have an account that he needs to register in the application. Fig 1.1 shows the registration form for the users. Every detail has been carefully implemented and the application takes care about the possible mistakes that the user may commit like selecting userid which already exists in database, weak passwords etc.

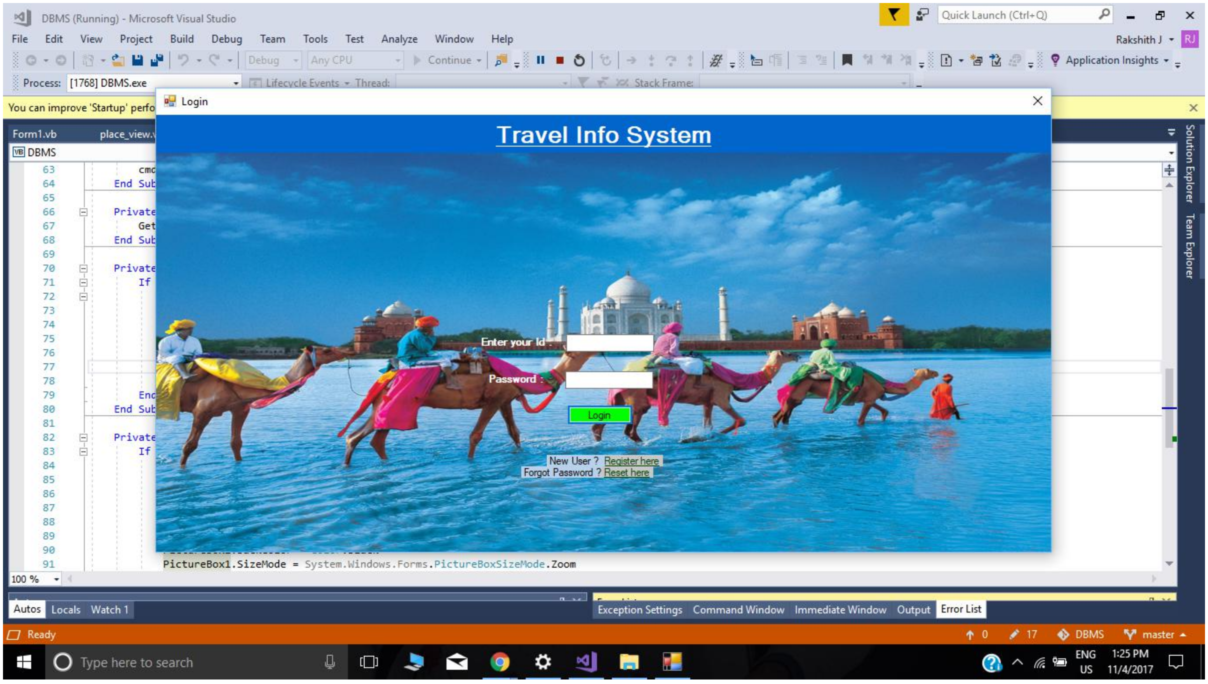


What is your favourite sports team ?
What is your mother's maiden name ?
Who is your favourite personality ?

Fig 1.1 Registration page at user application

1.2 User Login

Once registration is complete, the user is navigated to the login page (Fig 1.2) to enter his credentials and upon authentication the user is guided to the homepage(Fig 1.3) with all cities to select.



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PictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom
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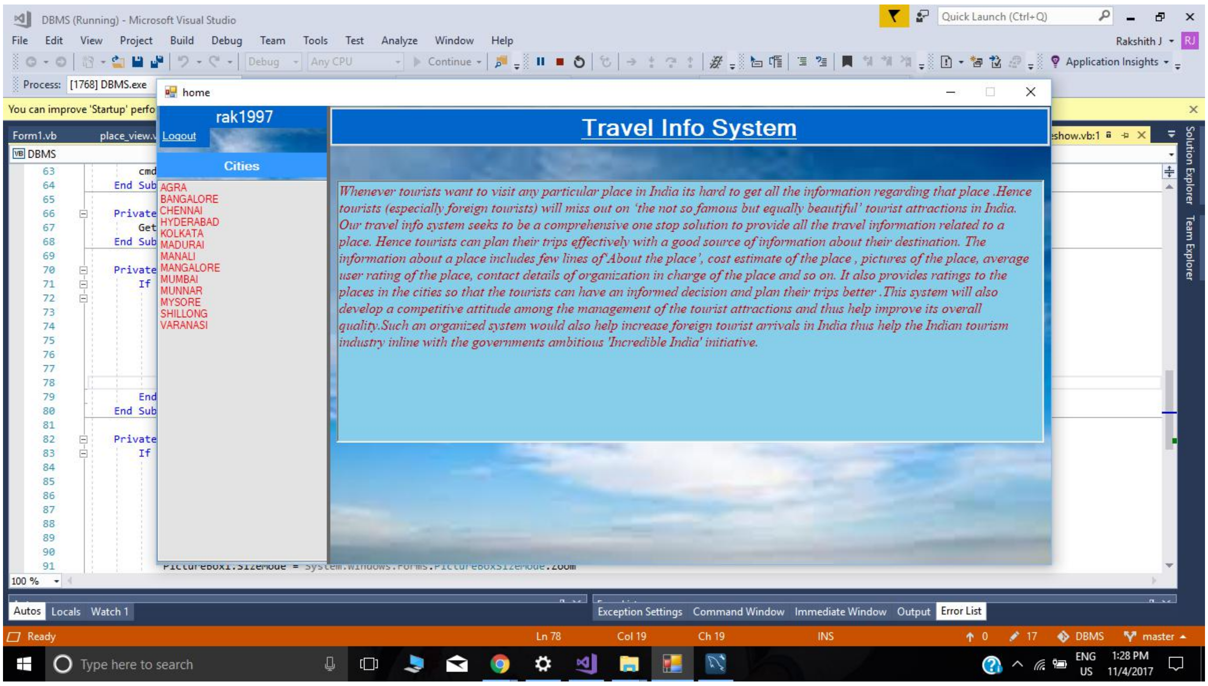
Fig 1.2. Login form at user application



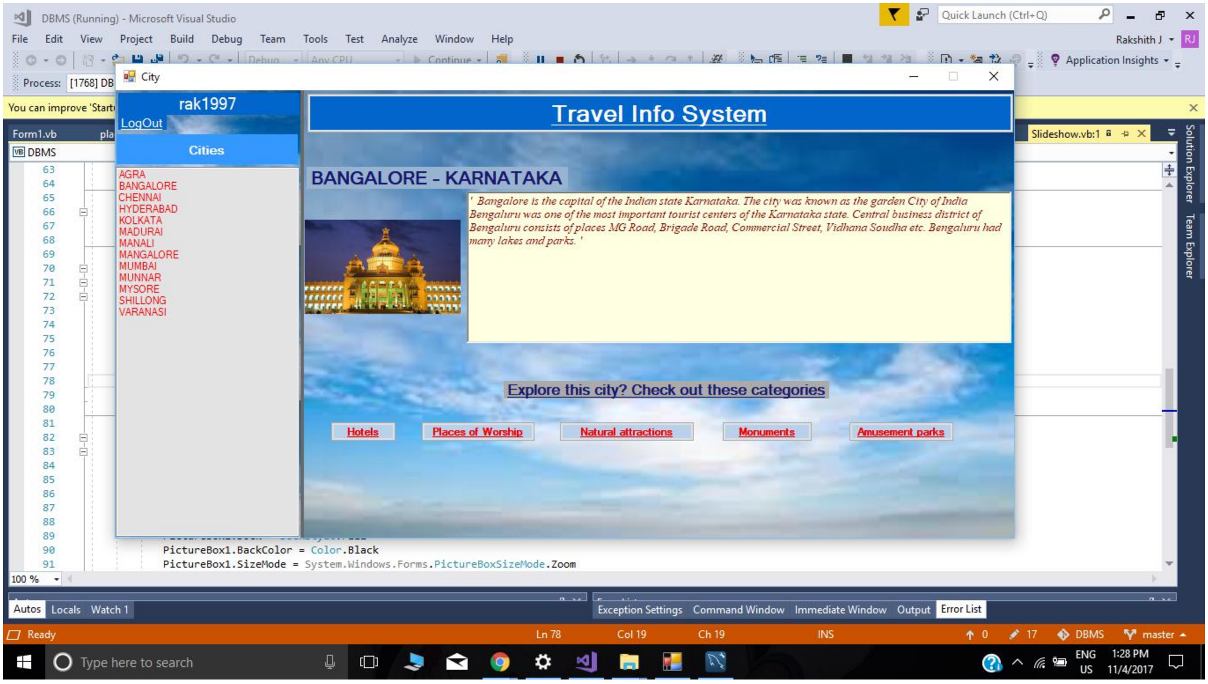
Travel Info System

Whenever tourists want to visit any particular place in India its hard to get all the information regarding that place .Hence tourists (especially foreign tourists) will miss out on 'the not so famous but equally beautiful' tourist attractions in India. Our travel info system seeks to be a comprehensive one stop solution to provide all the travel information related to a place. Hence tourists can plan their trips effectively with a good source of information about their destination. The information about a place includes few lines of 'About the place', cost estimate of the place , pictures of the place, average user rating of the place, contact details of organization in charge of the place and so on. It also provides ratings to the places in the cities so that the tourists can have an informed decision and plan their trips better .This system will also develop a competitive attitude among the management of the tourist attractions and thus help improve its overall quality.Such an organized system would also help increase foreign tourist arrivals in India thus help the Indian tourism industry inline with the governments ambitious 'Incredible India' initiative.

Fig 1.3. User application homepage

1.3 Surf through cities and places

From the homepage user can explore cities and places. On clicking on any city user will be navigated to city page(Fig 1.4) where he can further explore places of that city based on their category. Selection of any place displays available information of that place(Fig 1.5). Users can make use of the search functionality implemented.

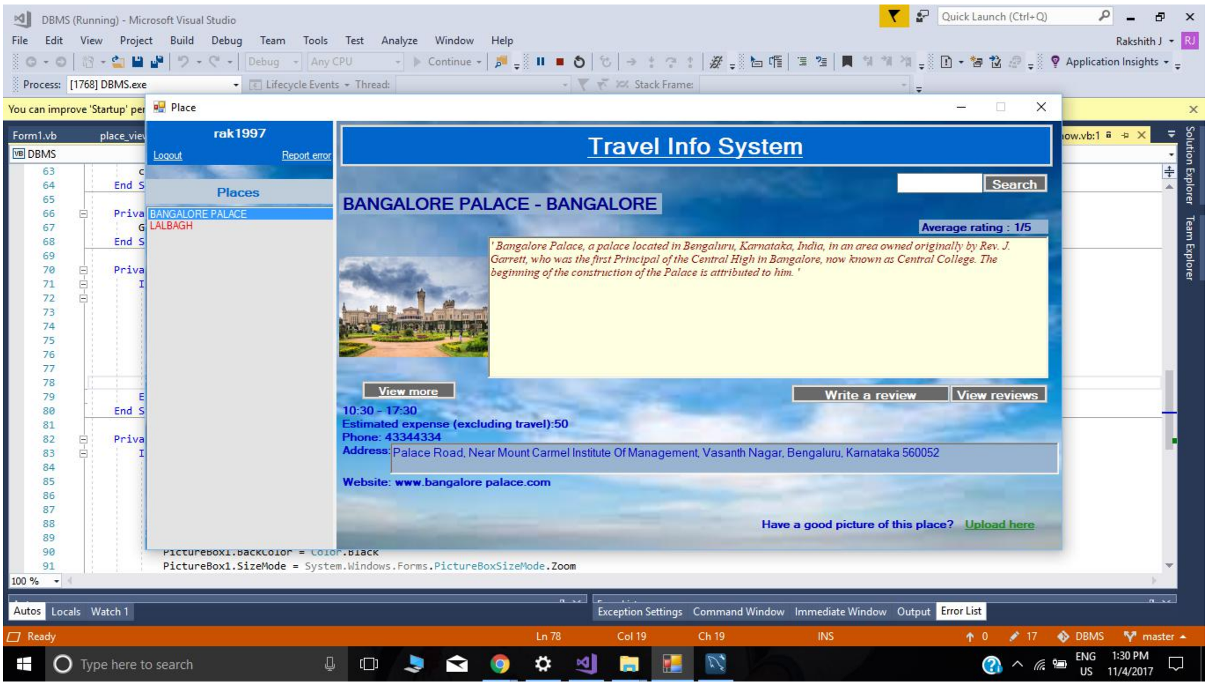


Travel Info System

BANGALORE - KARNATAKA

' Bangalore is the capital of the Indian state Karnataka. The city was known as the garden City of India Bengaluru was one of the most important tourist centers of the Karnataka state. Central business district of Bengaluru consists of places MG Road, Brigade Road, Commercial Street, Vidhana Soudha etc. Bengaluru had many lakes and parks. '

Explore this city? Check out these categories



BANGALORE PALACE - BANGALORE

Average rating : 1/5

'Bangalore Palace, a palace located in Bengaluru, Karnataka, India, in an area owned originally by Rev. J. Garrett, who was the first Principal of the Central High in Bangalore, now known as Central College. The beginning of the construction of the Palace is attributed to him. '

10:30 - 17:30
Estimated expense (excluding travel):50
Phone: 43344334
Address: Palace Road, Near Mount Carmel Institute Of Management, Vasanth Nagar, Bengaluru, Karnataka 560052

Website: www.bangalore palace.com

Have a good picture of this place? Upload here

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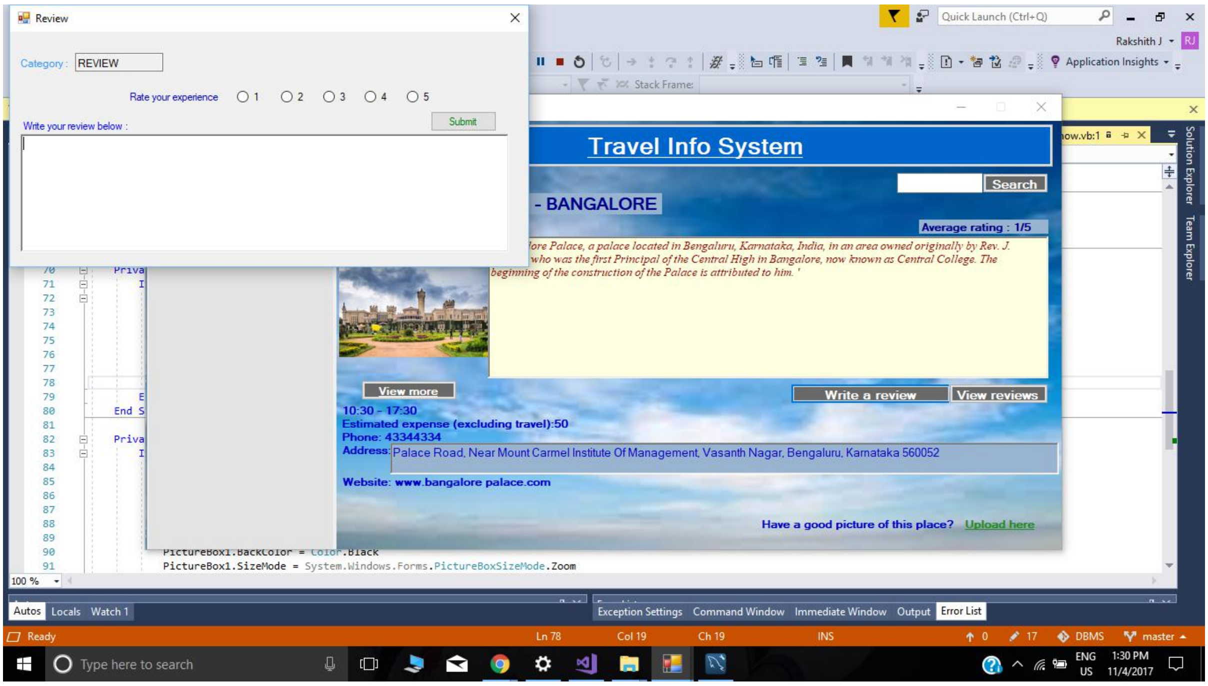
PictureBox1.BackColor = Color.Black
PictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom
```

Fig 1.5. Place page

1.4 Read and write reviews

The users can also rate and review the places they have visited which helps other users to have better information about the place.Also app calculates the average rating of the place based on ratings available in the database.

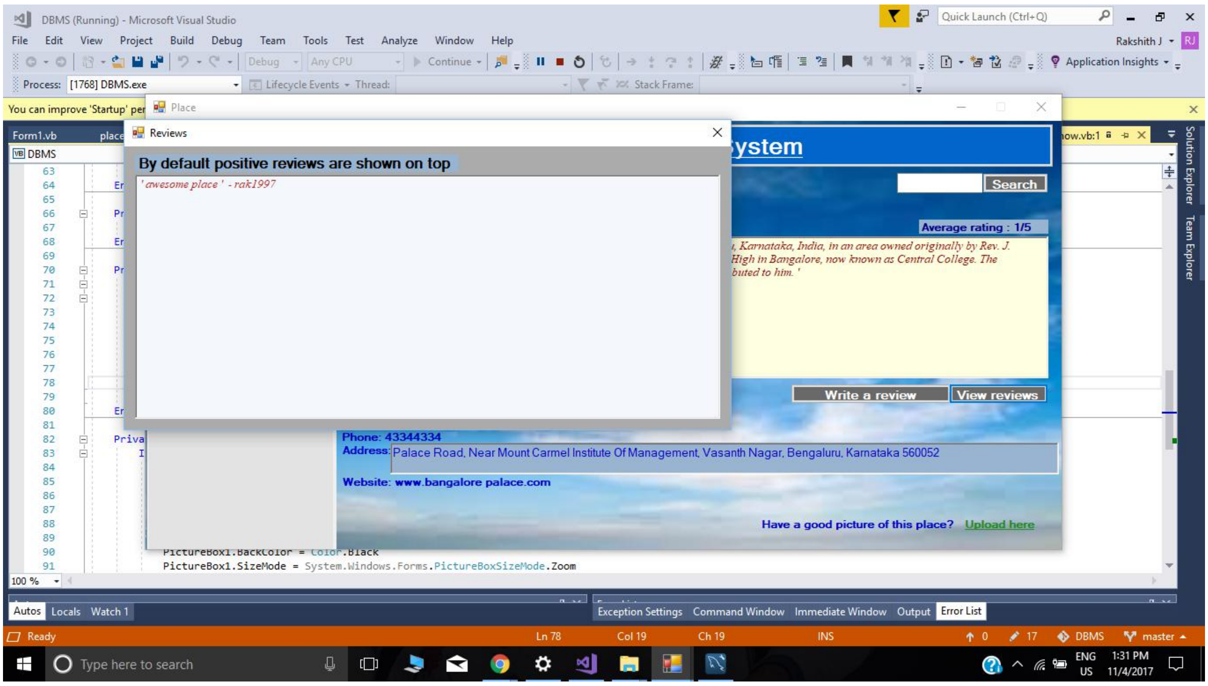


Category : REVIEW

Rate your experience ○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Write your review below :

Fig 1.6. Write review



By default positive reviews are shown on top

' awesome place ' - rak1997

Average rating : 1/5

, Karnataka, India, in an area owned originally by Rev. J. High in Bangalore, now known as Central College. The buted to him. '

Phone: 43344334

Address: Palace Road, Near Mount Carmel Institute Of Management, Vasanth Nagar, Bengaluru, Karnataka 560052

Website: www.bangalore palace.com

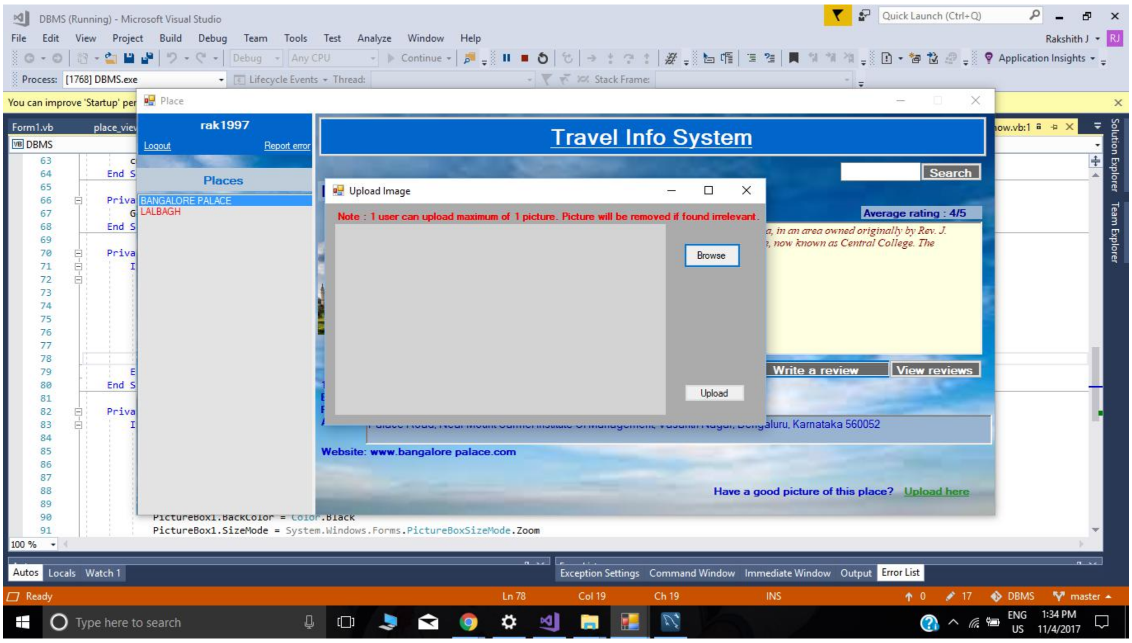
Have a good picture of this place? Upload here

```
PictureBox1.BackColor = Color.Black
PictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom
```

Fig 1.7 Read review

1.5 Upload images

The users can also upload image of the place they've visited which certainly helps other users to have a better preview of their place of interest.



BANGALORE PALACE
LALBAGH

Note : 1 user can upload maximum of 1 picture. Picture will be removed if found irrelevant.

Average rating : 4/5

a, in an area owned originally by Rev. J. , now known as Central College. The

galuru, Karnataka 560052

Website: www.bangalore palace.com

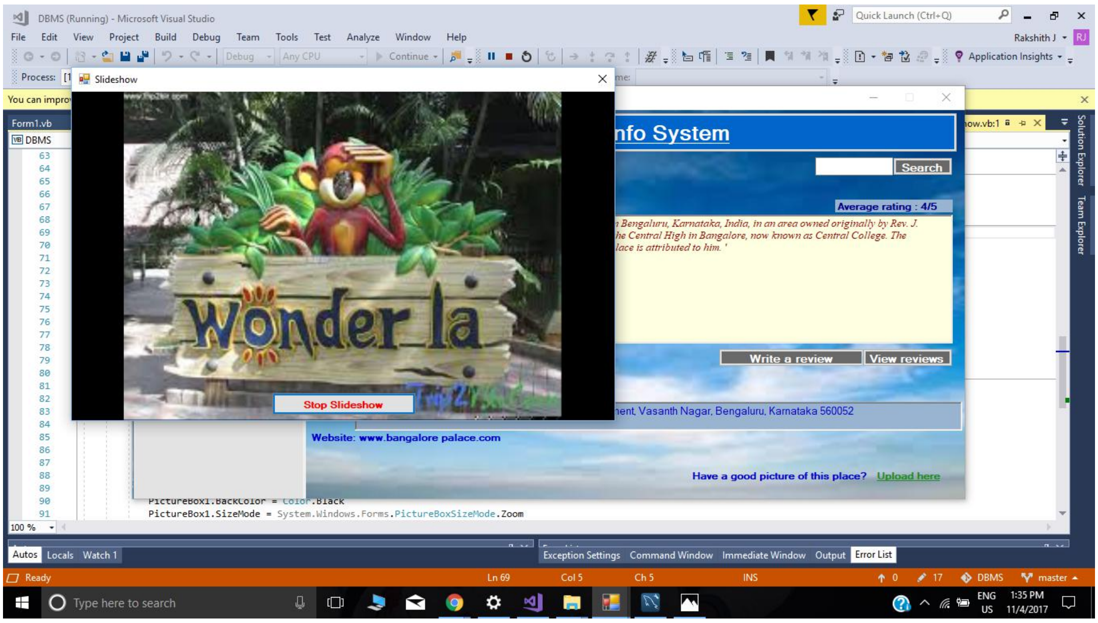
Have a good picture of this place? Upload here

```
PictureBox1.BackColor = Color.Black
PictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom
```

Fig 1.8 Upload Image form

1.6 View slide show

The users can view more images of a place as a slide show . The images uploaded by other users stored in the database are retrieved and displayed in this slide show.



Average rating : 4/5

Bengaluru, Karnataka, India, in an area owned originally by Rev. J. the Central High in Bangalore, now known as Central College. The lace is attributed to him. '

ent, Vasanth Nagar, Bengaluru, Karnataka 560052

Website: www.bangalore palace.com

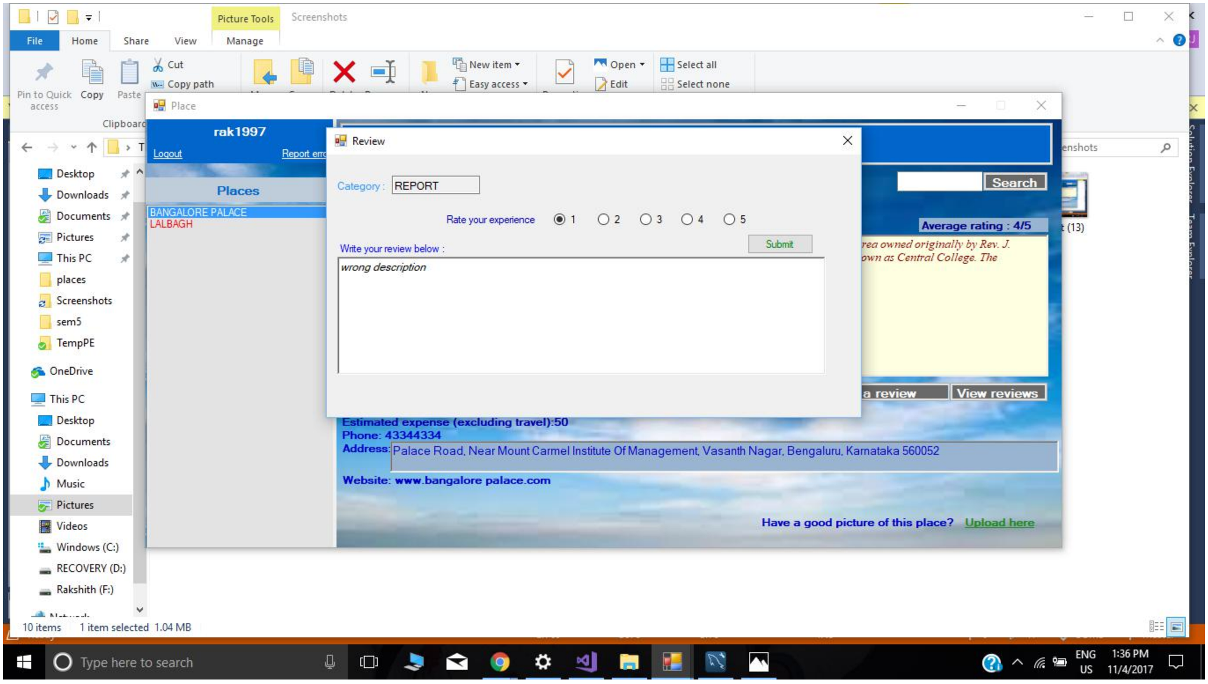
Have a good picture of this place? Upload here

```
PictureBox1.BackColor = Color.Black
PictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom
```

Fig 1.9 View Slideshow widget

1.7 Report errors

Using this functionality, the users can report any errors regarding information, report bugs etc.. These reports are accessed in the admin application where the administrators resolve these issues. This will be explained later.



BANGALORE PALACE
LALBAGH

Category : REPORT

Rate your experience ● 1 ○ 2 ○ 3 ○ 4 ○ 5

Write your review below :

wrong description

Average rating : 4/5

rea owned originally by Rev. J. own as Central College. The

Estimated expense (excluding travel):50
Phone: 43344334
Address: Palace Road, Near Mount Carmel Institute Of Management, Vasanth Nagar, Bengaluru, Karnataka 560052

Website: www.bangalore palace.com

Have a good picture of this place? Upload here

Fig 1.10. Report error widget

In addition to the above mentioned functionalities other functionalities like reset password(based on security question and answer), smoother navigation between pages are also implemented .

The functionalities of the admin vesion of the “Travel Info System” includes

1) Register a new admin
2) Login the admin
3) Home panel display
4) Add place data
5) Update place data
6) Add city data
7) Update city data
8) Resolve queries

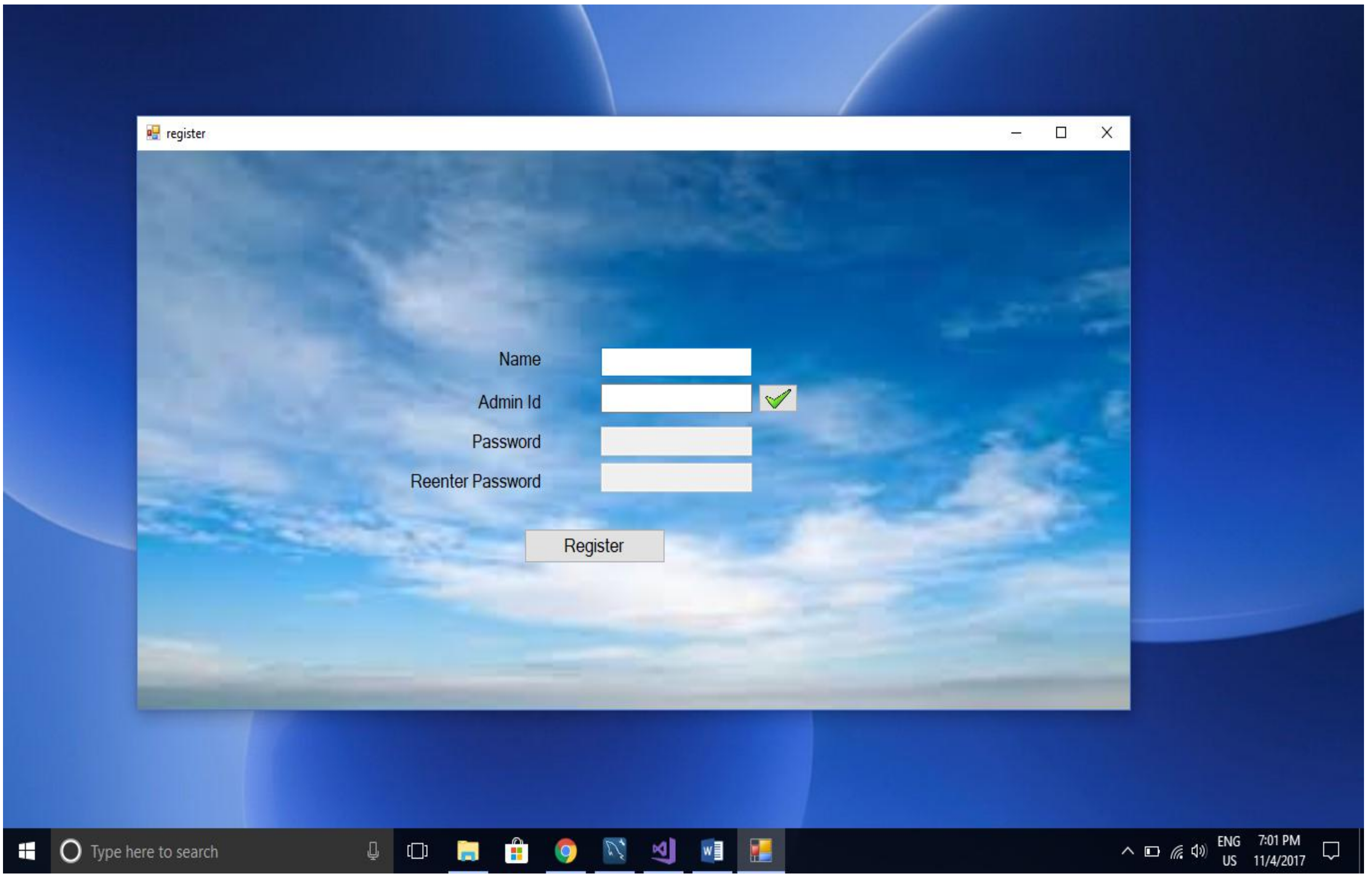
2.1 Register A New Admin

This functionality allows for the addition of a new admin to access the database. As an admin he will be given complete authority to manipulate the database .To login he will have to enter

-His name -userid -password -reenter password

The password entered will be checked so that it meets the requirements of a strong password.

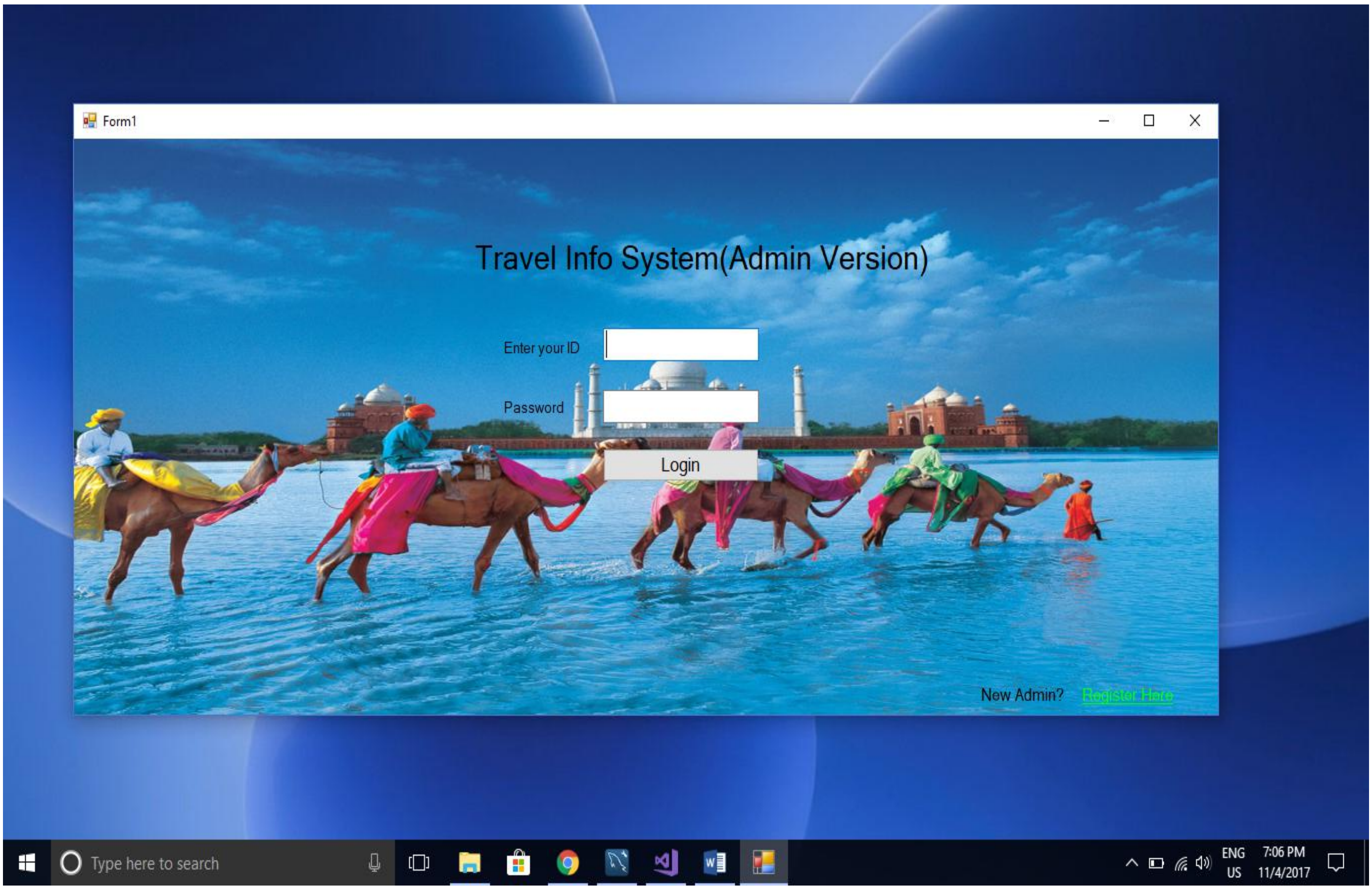
If the confirm password field doesn’t match with password field an popup message will warn the registrant regarding the error.



2.2 Login Page

This functionality ensures protection in the application .Once an admin is registered into to application he has to enter his userid and password to gain access to the application functionalities .On entering the wrong userid a popup appears alerting the userid does not match the ones in the database .If the password does not match the ones in the database an alert pops up and the password field clears.

The * appears in place of the password field to prevent shoulder surfing.



2.3 Home Page

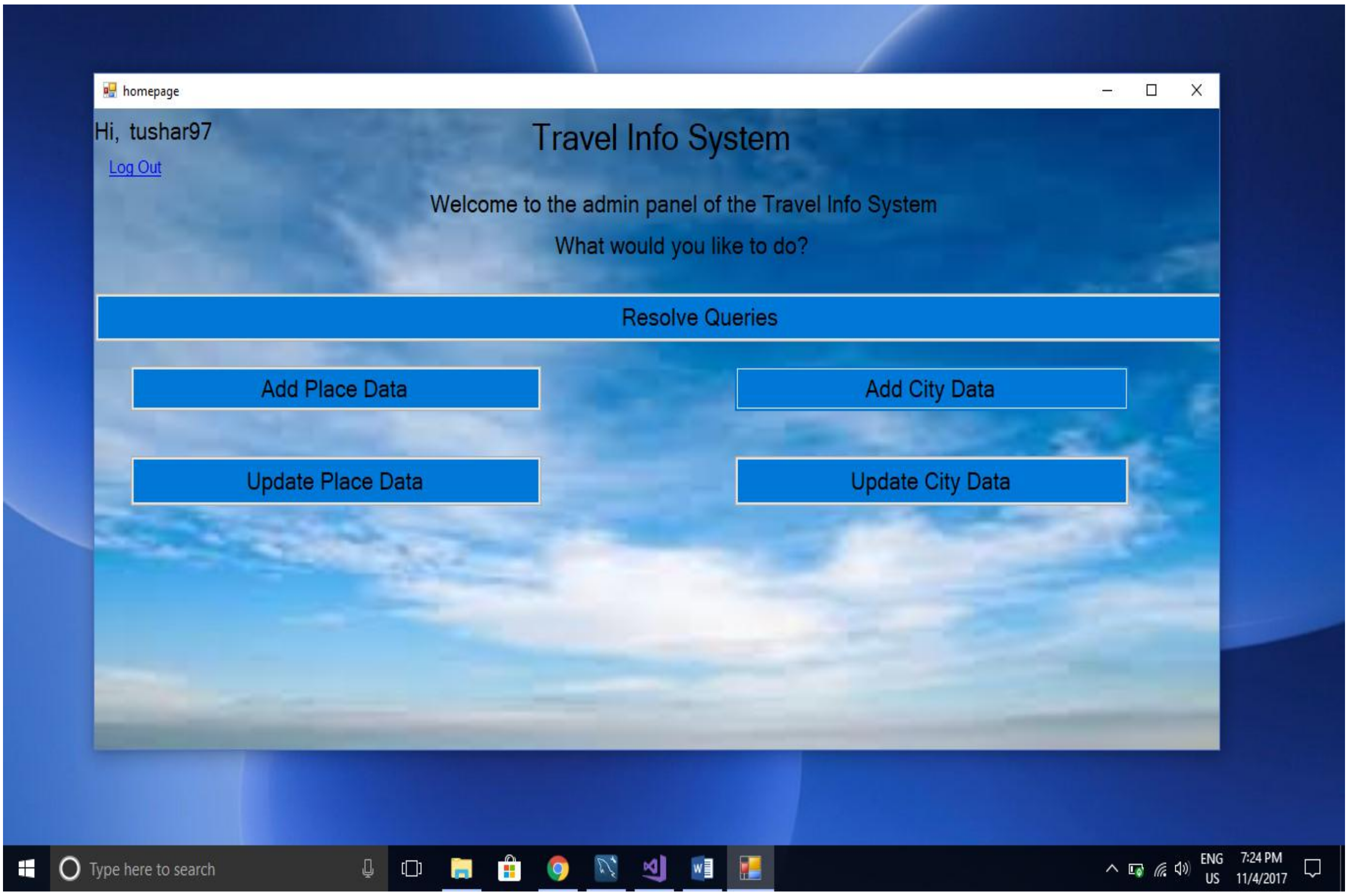
This the main landing page in the “Travel Info System” application.In the top left corner the logged in users userid is displayed. All the functionalities the admin has

is displayed in the form of buttons .The buttons are

-Add Place Data -Update Place Data -Add City Data

-Update City Data -Resolve Queries

On clicking the above buttons it leads to its respective pages. Each of these pages has a back button which retrns the control to the home page.



Hi, tushar97

Travel Info System

Welcome to the admin panel of the Travel Info System

What would you like to do?

2.4 Add Place Data

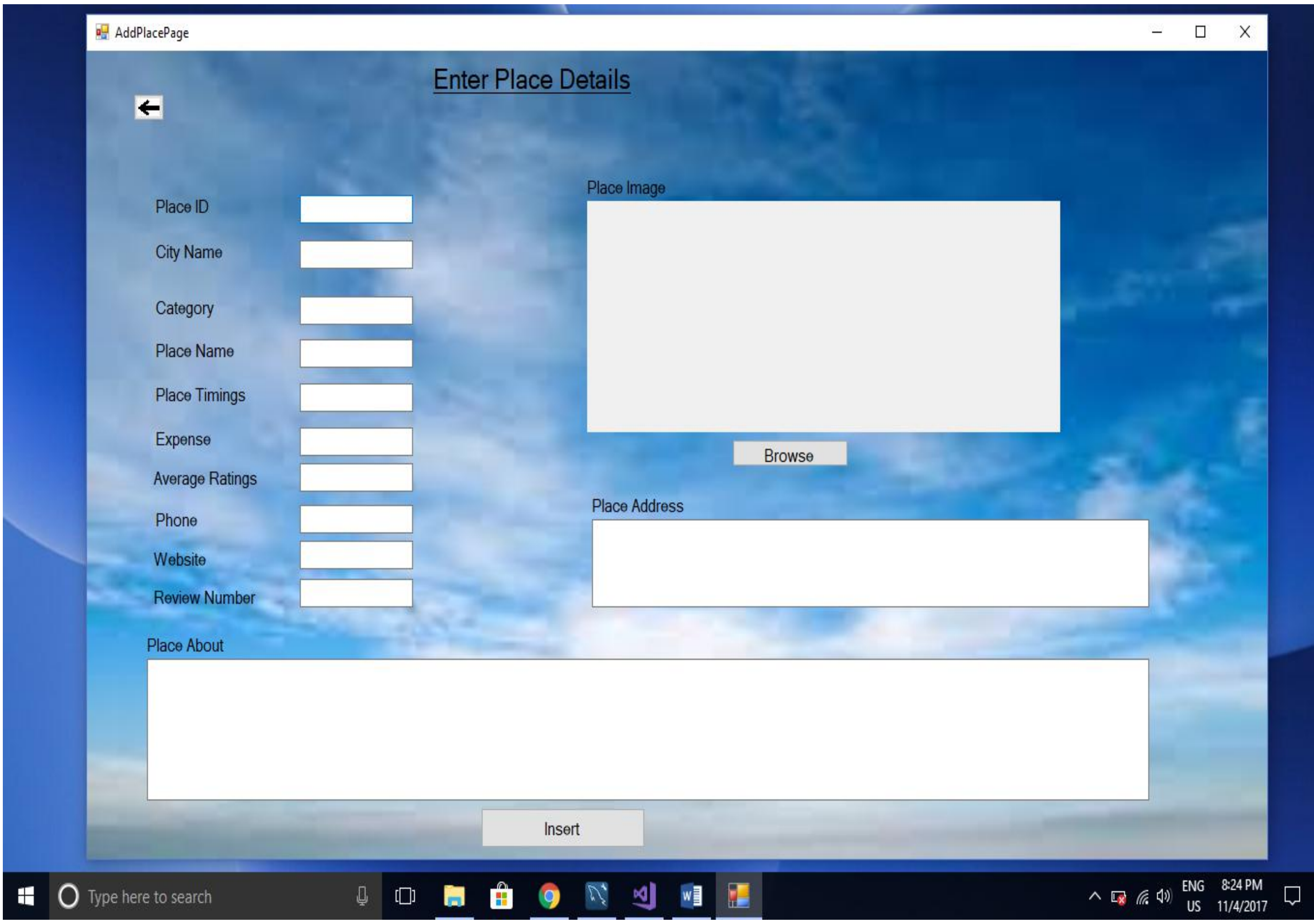
This functionality enables the admin to enter the details of the place to be added to the database .The fields include

-Placeid - City Name – Category –Place Name –Place Timings -Expense

-Average Ratings -PhoneNo. –Website -Review No. -Place Image

-Place Address -Place About

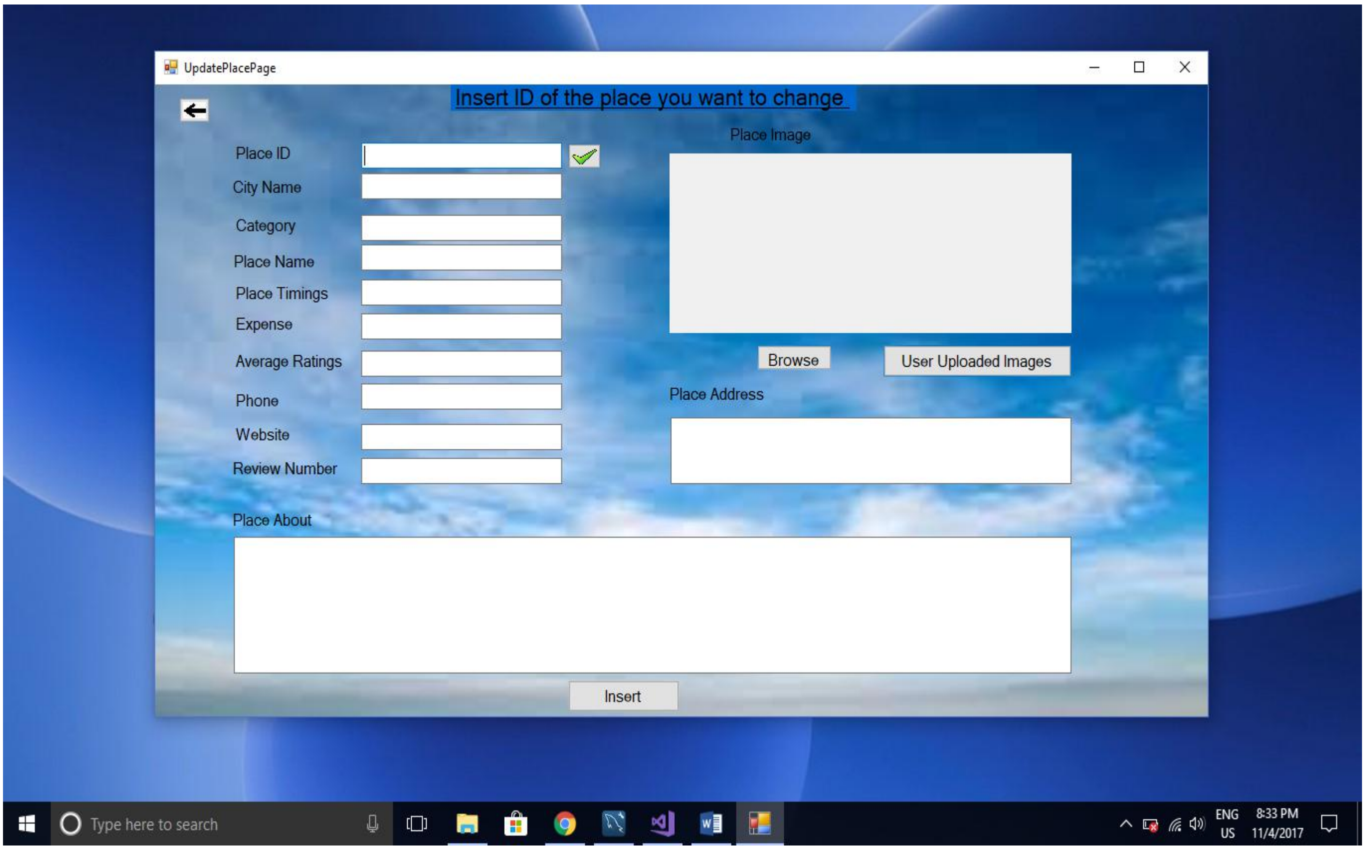
On clicking the browse button it opens a window enabling the user to choose an image from the localhost.The insert button executes the insert mysql command in the backend and enters the details entered into the places table.



2.5 Update Place Data

This functionality enables the admin to make changes to already entered values into the databases .This feature is especially useful because place data is dynamic and keeps changing at repeated intervals .

Ex. The timings of a monument changes,entry fees will be hiked or inaccurate details will be written about the place hence to change these the update place data functionality is added.On pressing the check box the details about the place will be queried using the place id and displayed in the respective boxes .We can make change and hit the insert button to insert these values into the database.

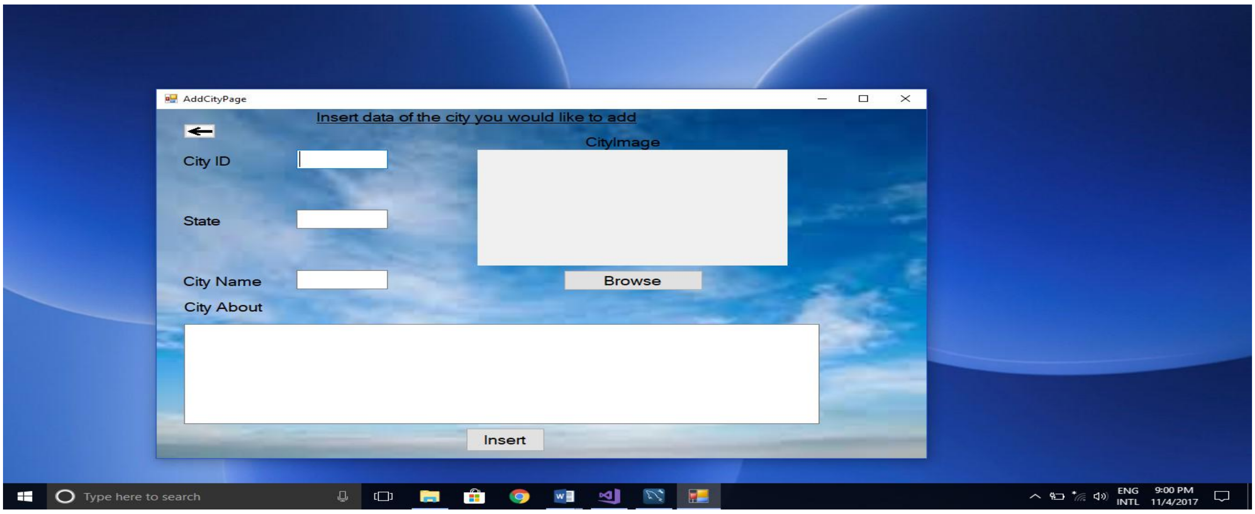


2.6 Add City Data

This Functionality enables the admin to enter details of the city to be entered into the database.The fields include

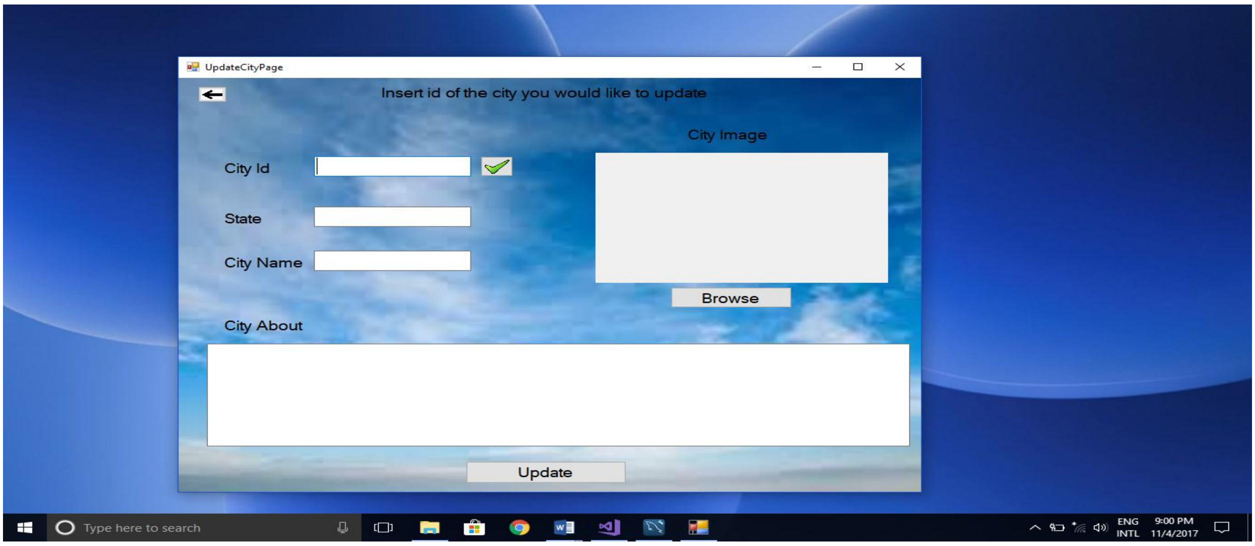
-City Id –City Name –City About –City Image.

The insert button executes the mysql query in the backend and inserts the place details into the city table.



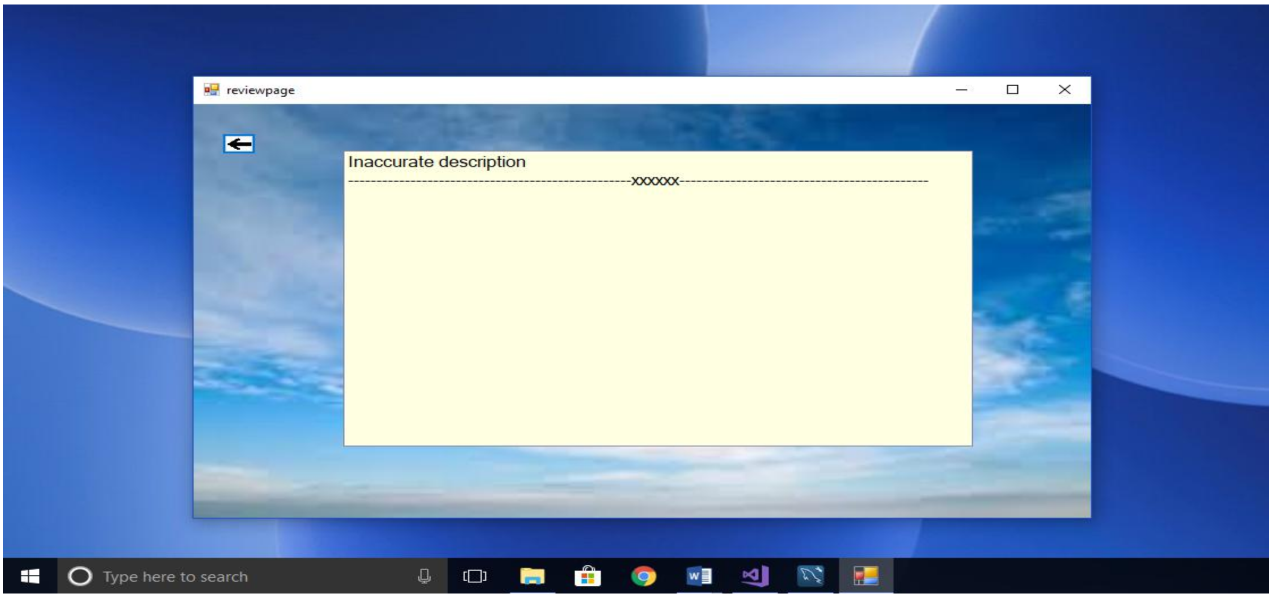
2.7 Update City Data

This functionality enables the admin to update city details.The checked button fetche the details of the cityid and displays the details in the respective fields .Changes can be made and the update button enters the updates into the database.



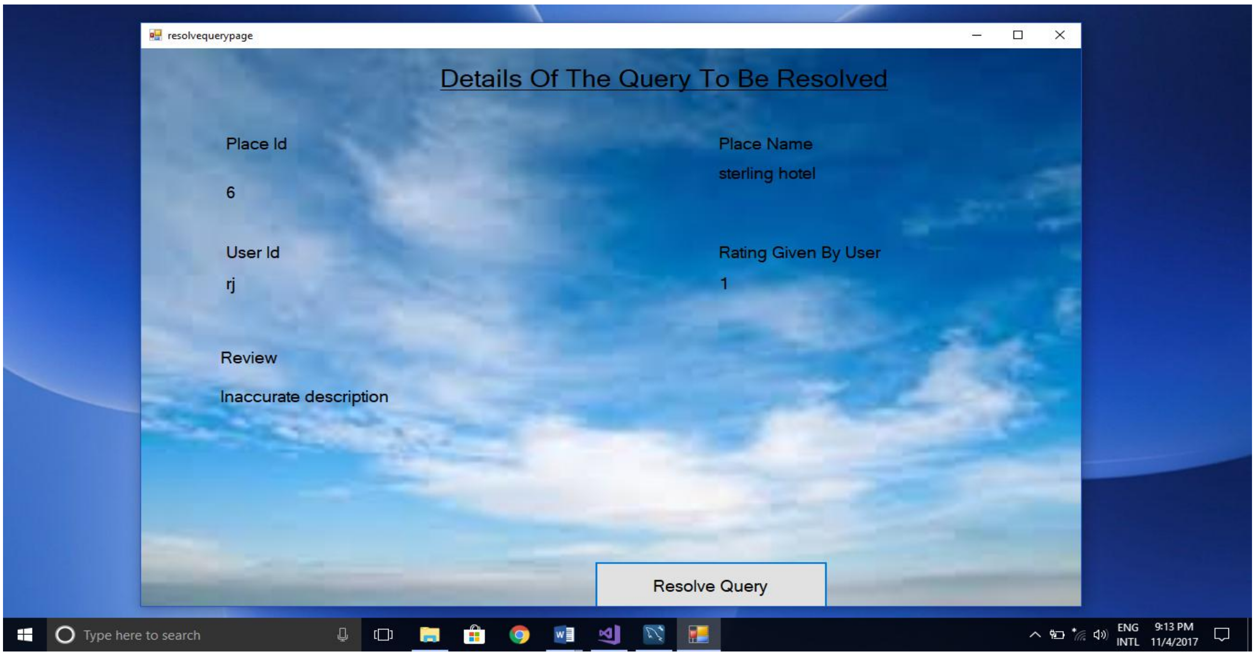
2.8 Resolve Queries

This functionality enables the admin to resolve the queries sent by the end users of the “Travel Info System” .Queries entered the end users in the user version of the application will appear in this page.



Inaccurate description
--xxxxxx---

On clicking any of the queries it goes into the solve query page where all the details of the user and also of the place id where the error was flagged will be displayed on clicking the resolve query button it goes into the update places page and the required changes can be made and entered into the database.



Details Of The Query To Be Resolved

Place Id

6

Place Name

sterling hotel

User Id

rj

Rating Given By User

1

Review

Inaccurate description

DATABASE DESIGN (TABLES)

i. userdb

SNO	NAME	TYPE	CONSTRAINTS
1	userid	VARCHAR (20)	Primary key
2	name	VARCHAR (30)	Not null
3	passwords	VARCHAR (20)	Not null
4	securityq	VARCHAR (50)	Not null
5	securitya	VARCHAR(50)	Not Null

ii. city

SNO	NAME	TYPE	CONSTRAINTS
1	city_id	INT	Primary key
2	city_name	VARCHAR (20)	Not null
3	state	VARCHAR (20)	Not null
4	city_img	LONGBLOB	Not null
5	city_about	LONGTEXT	Not null

iii. admindb

SNO	NAME	TYPE	CONSTRAINTS
1	userid	VARCHAR(50)	Primary Key
2	name	VARCHAR (50)	Not Null
3	passwords	VARCHAR (50)	Not Null

iv. pictures

SNO	NAME	TYPE	CONSTRAINTS
1	userid	VARCHAR(20)	Foreign key
2	place_id	INT	Foreign key
3	picture	LONGBLOB	Not Null

v. places

SNO	NAME	TYPE	CONSTRAINTS
1	place_id	INT	Primary key
2	city_id	INT	Foreign key
3	place_name	VARCHAR(50)	Not null
4	place_img	LONGBLOB	Not Null
5	place_about	LONGTEXT	Not null
6	place_timings	VARCHAR(20)	Not null
7	expense	FLOAT	Default 0
8	review_number	INT	Default 0
9	address	LONGTEXT	Not Null
10	phone	VARCHAR(20)	Default Null
11	avg_rating	FLOAT	Default 0
12	category	VARCHAR(10)	Not Null
13	website	VARCHAR(50)	Default Null

vi. reviews

SNO	NAME	TYPE	DESCRIPTION
1	place_id	INT	Foreign Key
2	userid	VARCHAR (20)	Foreign key
3	review	LONGTEXT	Default Null
4	review_category	VARCHAR(20)	Not Null
5	rating	INT	DEFAULT 0

Normalization

From the above described tables our design satisfies these conditions:

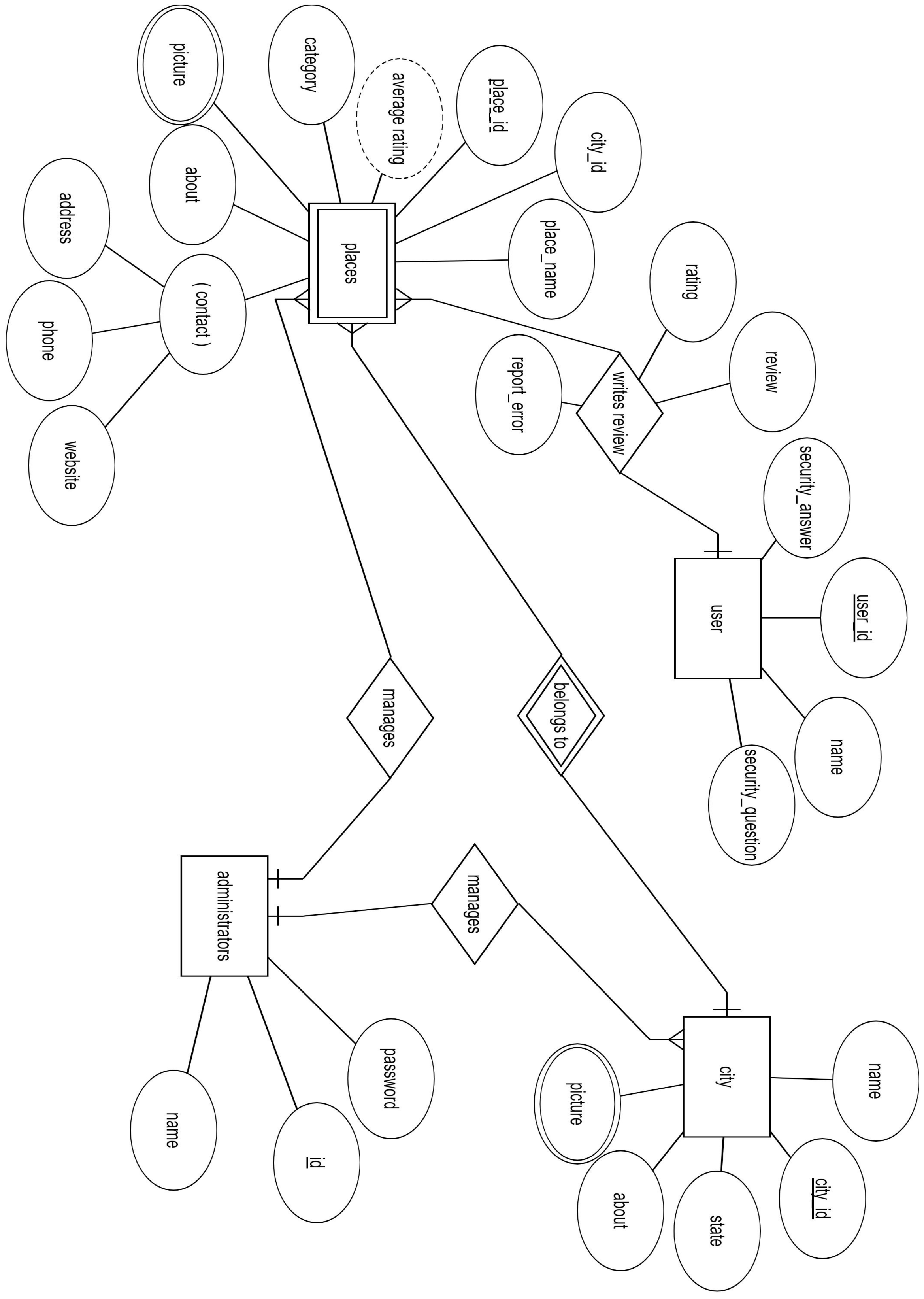
i. The information stored in the relational tables are such that each column contains atomic values, and there are not repeating groups of columns. Hence the database is in first normalized form (1NF)

ii. From the above tables it is evident that values of all columns in a table depend on primary key of the table .Since the database is in first normalized form (1NF) and all columns of a table depend on primary key of that table we can easily conclude that the database is in second normalized form (2NF).

iii. From the tables it can be easily inferred that there is no transitive relationship between any of the columns in a table. Also since the database is in second normal form (2NF) it can be concluded that the database is in third normalized form (3NF).

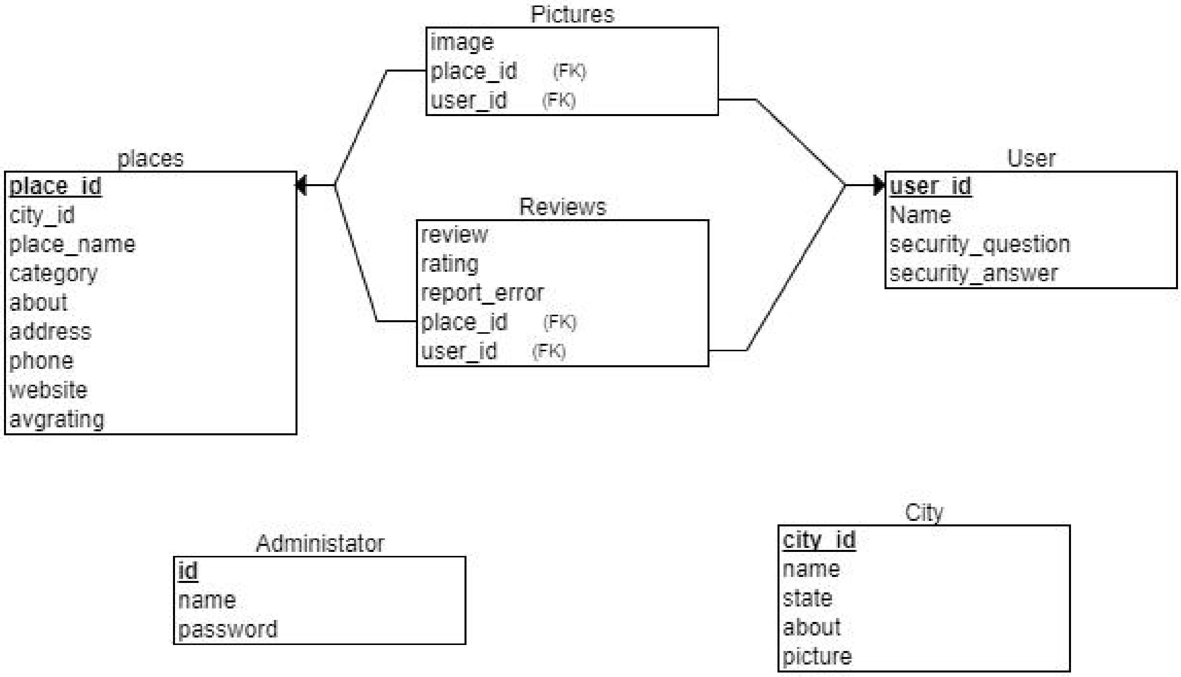
ER DIAGRAM (Rotate to see the diagram)

(Tool used: ERDPlus)


picture
category
average rating
place_id
city_id
about
places
place_name
address
(contact)
phone
website
rating
review
report_error
writes review
security_answer
user
user_id
name
security_question
manages
belongs to
administrators
manages
password
name
id
city
picture
name
about
state
city_id

RELATION SCHEMA

(Tool used: ERDPlus)



IMPLEMENTATION

The “Travel Info System” is developed on the visual studio framework

The whole project is divided into 3 parts

1:The Front end user application

This is part of the “Travel Info System” is developed using the VB.net language. This application engages with the end user and performs the user application functionalities with the help of its user friendly interface.

2: The Front end admin application

This part of the “Travel Info System” is developed using the VB.net language. This application engages with the admin of the sytem and performs the administator functionalities .

3.Backend Mysql Database

Both the user and the admin application independently access the mysql database .The user application access the database and perform queries like SELECT and JOIN queries .The admin application as complete authority over the database and can perform the queries and nested queries likeSELECT, INSERT, DELETE, UPDATE and JOIN.

CONCLUSION

The implemented project “Travel Info System ” helps to serve as a one stop solution to all the travel related queries a tourist has related to a place.It aims to be a centralized system where all the tourism hotspots in India will find a place and thus helps to bring about order in the unorganized but high potential tourism Industry of India .Such an ordered system would also aid in increasing tourist arrivals providing thousands of jobs to the locals and thus spurring development in those areas .An increase in foreign tourist arrivals would help in mitigating India’s trade deficit and thus strengthen the value of the Indian rupee.Since user reviews and rating system is also incorporated into the system it helps in developing a healthy competition among the management of the tourism destinations thus improving the overall infrastructure of these places.This would also help in further strengthening India’s prowess as a “tourism powerhouse” in the world in conjunction with the governments ambitious “Incredible India” initiative.

LINKS TO CODE

User side application : https://github.com/Rakshith-J/Travel-Info-System

Admin side application : https://github.com/tusharbs/Travel-Info-System-Admin-Version-