CITY TOUR MANAGEMENT

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SOFTWARE ENGINEERING ASSIGNMENT

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1.0 INTRODUCTION:

Our focus is on **organizing and coordinating** a city tour for a small crew (about 20 people) to places like amusement parks, museums etc. We tend to design software models and phases and so the system helps make people book their tour on available days. Focus is kept on **first come first serves, bulk booking and advanced booking and discounts** to be provided accordingly….

PURPOSE OF PROJECT:

As a part of the development process the members of the crew are **required to undertake trips to various parts of the city or locality**. The visits may be for academic or recreation purpose. In this, the crew is assisted by one of system departments . The management assist the crew in the following areas:

- Transport ,food and accommodation (if necessary)
- Permits for reserved areas and other states
- Entry tickets for amusement parks and museums
- Academic-permit related information
- Easy bill payments
- Administration of the travel policy of the tour company.

2.0 Functionalities of system:

- Making bill payments cash-free (Handling online modes of transaction)
- Improve automation wherever possible and **enhance privacy of members**
- Regular members are **tracked and given discounts** accordingly.
- Making bookings for the **travel at comfort of home**
- Special offers and discounts for **certain frequency and certain type of booking**

Problems with existing system:

The system is required to maintain considerable information on the members, their information, permit related information, travel information, extensions etc. Presently these are maintained in Microsoft Excel form, in a standalone mode. There is a need to automate this function and merge it with the database of tour company.

SOLUTION TO THE PROBLEM:

The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach.

- User Friendliness is provided in the application with various controls provided by **system Rich User Interface.**
- The system makes the overall project management much **easier and flexible.**
- It can be accessed over the Internet .
- Members information can be stored in centralized database which can be maintained by the system.
- This can give the good security for user information because data is not in client machine.
- Authentication is provided for this application only registered Users can access.
- The automated system will provide to the employees for reliable services.
- Enabling geo-location features to locate trip buses and for navigation
- The speed and accuracy of this system will improve more and more.
- The proposed system is a web based application and maintains a centralized repository of all related information.

3.0 USEFULNESS :

REPORT:

Preliminary investigation examines project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility

study is to test the **Technical, Operational ,Economical and organizational feasibility** for adding new modules and debugging old running system. All systems are feasible if they are given unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

Technical feasibility:

The technical issue usually raised during the **feasibility stage of the investigation** includes the following:

• Does the necessary technology exist to do what is suggested?
• Do the proposed equipment have the technical capacity to hold the data required to use the new system?
• Will the proposed system provide adequate response to inquiries, regardless of the number or location of users?
• Can the system be upgraded if developed?
• Are there technical guarantees of accuracy, reliability, ease of access and data security?

3.2 Operational feasibility:

Proposed projects are beneficial only if they can be turned out into information systems, which will meet the organization's operating requirements.

Operational feasibility aspects of the project are to be taken as an important **part of the project implementation.**

Some of the important issues raised are to test the operational feasibility of a project includes the following: –

• Is there sufficient support for the management from the users?
• Will the system be used and work properly if it is being developed and implemented?
• Will there be any resistance from the user that will undermine the possible application benefits?

This system is targeted to be in accordance with the above-mentioned issues. Beforehand, the management issues and user requirements have been taken into consideration. So there is no question of resistance from the users that can undermine the possible application benefits. The well-planned design would ensure the **optimal utilization of the computer resources** and would help in the **improvement of performance status.**

Economic feasibility:

The **economic feasibility** step of business development is that period during which a **break-even financial model** of the business venture is developed based on all costs associated with taking the product from idea to market and achieving sales sufficient to satisfy debt or investment requirements.

In the economic feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs. The system is economically feasible. It does not require any **additional hardware or software.**

Organizational feasibility:

Organizational feasibility analysis is conducted to determine whether a proposed business has **sufficient management expertise, organizational competence, and resources** to successfully launch its business. Two key aspects to consider include:

- Management ability
- Resource sufficiency to ensure wholesome completion of work

SDLC MODEL USED:

Spiral model

Spiral model can be used for this system because Spiral Model SDLC is one of the models used to **organize the working process** around a software project. Along with Waterfall, Agile, Iterative, V-Shaped and Big Bang model, SDLC Spiral model aims at lowering the possible risks and increasing the chances of huge success of the final product in software development.

SPIRAL MODEL was defined by **Barry Boehm in his 1988** article,
A spiral Model of Software Development and Enhancement.

"This model was not the first model to discuss iterative development, but it was the first model to explain why the iteration models"

Why spiral model?

A **Spiral model SDLC** represents a **highly systematic approach** to software development that essentially **combines Waterfall and Iterative models.**

Function in waterfall model:

- Linear manner of development of software.
- The team needs to finish one stage before starting the other.
- On top of that, the scope is defined before the start of the project on Requirements stage.

The **disadvantage of waterfall development** is that once an application is in the testing stage, it is **very difficult to go back and change something** that was not well-documented or thought upon in the concept stage.

Function in iterative model:

- Designed to **eliminate the weak points of Waterfall,** the model starts with the team specifying and developing only a part of the software product.

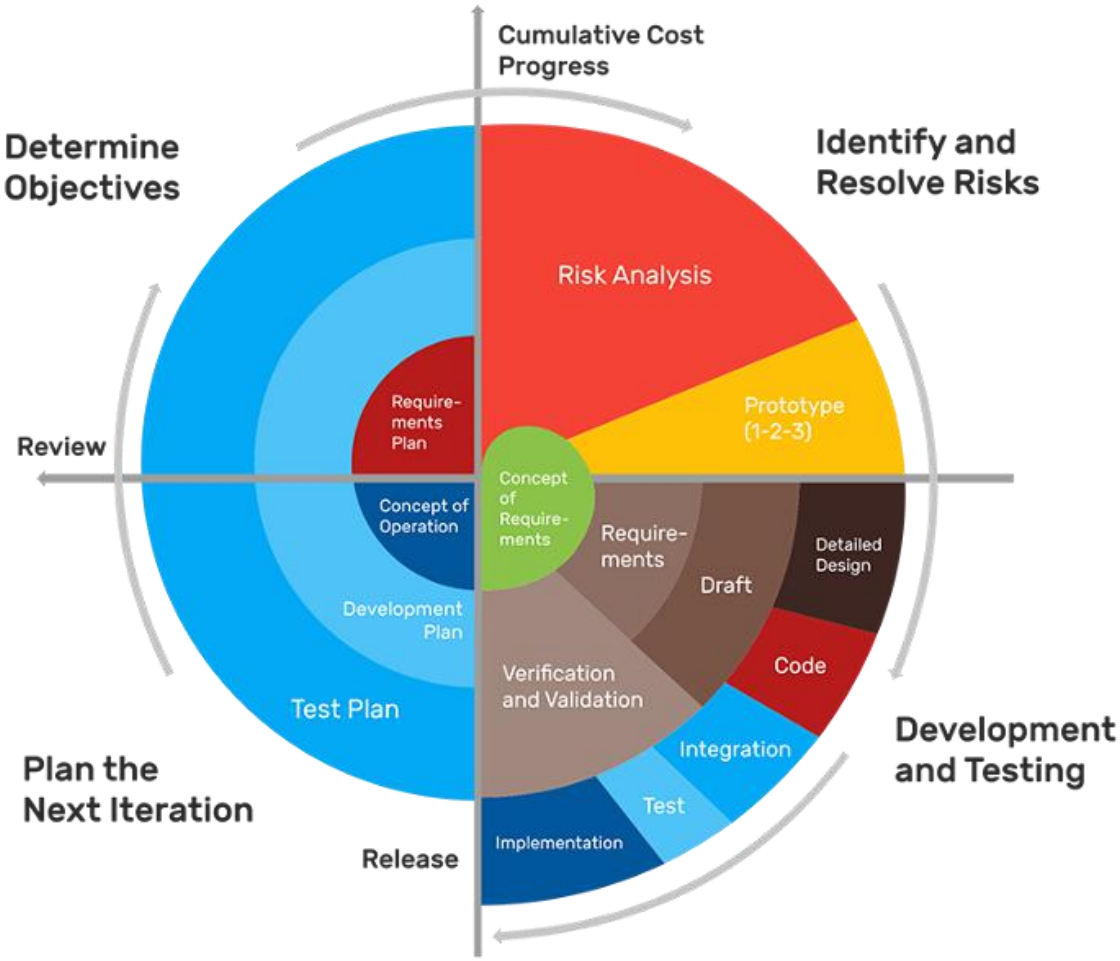
- After, the product is gradually brought to life in iterations, phases with **specific tasks and fixed deadlines.**
- With the Iterative model, teams can assess risks at the earliest stages successfully and easily. As a result, there is a slim chance the team will face risks further down the line, if at all.

"Spiral model is a Combination of systematic Evolutionary aspect of prototype model with Controlled Sequential Development aspect of waterfall model"

-Barry Boehm (1986 article)

Advantages:

- Thus ,spiral model tries to take a **gradual approach of waterfall model and repetitive nature of iterative model** to make more **flexible software development.**
- Also ,it helps to **analyze and reduce risks** at any stage.
- It is more able to cope up with changes that are software development generally entails



Phases in spiral model:

REQUIREMENT ANALYSIS (PLANNING)

Requirements are gathered during the planning phase. Requirements like **'BRS'** that is **'Business Requirement Specifications'** and **'SRS'** that is **'System Requirement specifications'.**

SCOPE:

City tour management software is essential for **easy management of tour and vacation trips**. The main aim is to help tourism company to **manage and take account of their customers, tracking of vehicles and managing customers**. It provides easy and accurate operation

of tour management. It also focuses on **making travel management sophisticated by handling requests** and providing service for different locations of various cities .

OBJECTIVE:

The objective of the project is to develop a system that **automates the processes and activities of a travel and tourism agency.**The purpose is to design a system using which one can perform all **operations related to traveling and sight-seeing and ensure customer satisfaction.**

A continuous communication is held between the **system analyst and the client** to gain a thorough understanding over the project. As soon as this spiral is accomplished, the project is deployed into the identified phase.

OUTCOMES:

- This system acts as a community to connect customers and travel agency and easy interaction between them through internet.
- The proposed system is a web based application and maintains a centralized repository of all related information.
- The system allows one to easily access the relevant information and make necessary travel arrangements.
- Users can decide about places they want to visit and make bookings online for travel and accommodation.
- To provide a display platform where tourists can find their favourite destinations.
- Provides variety of travel services that will match all priorities of travel enthusiasts.

So, the system provides easy and efficient way of work for all (agency and customers).

BUSINESS & SYSTEM REQUIREMENTS SPECIFICATIONS:

The sections below describe the Business Processes and the associated Business Requirements involved in the project. These may represent **high level functional, non-functional, reporting, and/or infrastructure requirements**. These business requirements directly relate to the high level scope items determined for the project.

OUTPUT DESIGN

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provides a permanent copy of the results for later consultation. The various types of outputs in general are:

- External Outputs, whose destination is outside the organization.
- Internal Outputs whose destination is within organization and they are the
- User's main interface with the computer.
- Operational outputs whose use is purely within the computer department.
- Interface outputs, which involve the user in communicating directly.

USER INTERFACE DESIGN:

1. User initiated interface the user is in charge, controlling the progress of the user/computer dialogue. In the computer-initiated interface, the computer selects the next stage in the interaction.

2. Computer initiated interfaces

In the computer initiated interfaces the **computer guides the progress** of the user/computer dialogue. Information is displayed and the user response of the computer takes action or displays further information.

ERROR MESSAGE DESIGN:

The **design of error messages** is an important part of the user interface design. As user is bound to commit some errors or other while designing a system the system should be designed to be helpful by providing the user with information regarding the error he/she has committed.This application must be able to **produce output at different modules for different inputs.**

RISK ANALYSIS :

PROBLEMS FACED:

A detailed analysis of problems that exists in present system of tour and travel management is done . From the analysis, a list of several problems at each level was pruned out.

At customer levels:

- Contact to bus station was made by telephone and details regarding travel were to be obtained.
- Data disputes were common among list of customers because of inaccurate work. Incomplete details were a headache for authority concerning proper travel management.
- A raw first come first serve to the spot basis of booking created disputes among customers and confusions among bus agency .
- There were possibilities of customers being **unnotified** of their schedule and travel since there were havocs in data management.

At Travel management levels:

- Any alterations or delays in schedule were not efficiently been sent to customers and customers were **uncomfortable facing delay situations and alterations.**
- Any changes after fixing the whole schedule was really a hectic task as the manually prepared documents are to be changed and changed list has to be sent to concerned bus stations to notify to the customers.
- Manual performing of tasks made the whole management a dreadful time consuming one. It also **increased expenses and increased need for storage space.**

At agent (Incharge) levels:

- Agents were forced to maintain a manual list of literally everything starting from tour members list and **details of accommodation and food.**
- There were also a lot of possibilities where incharge was not able to know the needs of customers and follow same old routine of travelling which may decrease members interest.

ALTERNATE SYSTEM ANALYSIS:

The proposed system is an online system which helps the user to go through the rates quoted by different travel agencies and select the convenient rate that is suitable for him/her. It **tracks the sale and use of tickets** through data which is stored in a **central database** and updated by the tour company enabling the passenger to check-in and board the bus without holding a paper ticket. For the company, city tour management system offers a number of clear benefits.

- They reduce document distribution costs
- Eliminate paper-ticket fraud,
- Enhance passenger check-in options
- Stop revenue leakage through automation of check-in ticket and change control
- Eliminate lost/stolen tickets, and eliminate the need for pre-paid tickets.

The advantages of proposed system are that scrutiny is maintained in the new system. Securities for all important data are maintained confidentiality. As it is **easily understandable and user friendly**, quick entries can be made in this system. The system is very simple in design to implement. The system **requires very low system resources** and the system will work inalmost all configurations.

IMPACTS ON BUSINESS AND COMPANY:

- The impact of the system on the **operations, data generation and analysis, planning and controlling processes** will be significant, resulting in an increased speed of information processing and analysis. Now the company will reduce considerably the time to have the relevant information available and analyzed to make quicker and more optimal decisions, resulting in an **improved efficiency of the operations and planning processes.**

- The decisions making time for the **interval operations management** will been considerably reduced with the use of the new system. This time reduction implies a **cost optimization** in terms of an increased control on the operations **reduced reaction times** to different events and problems, with an increased control and reaction capacity, **improving the global control and tracking of operations, in the transport services**. When the system is fully integrated (final software version operating), the company will measure the reduction in time obtained with the usage of the new application.

- The system will have an important impact on the **workflows** affecting the personnel working in the company with computers, this is because now the **processes and applications run in remote mode,** not in local mode, so the operation is different, i.e. the files have to be saved in the server not in the local HD.

ANALYSIS PHASE:

The analysis phase begins with a **basic thought of the mind-map** in the first spiral and involves **architectural design, logical layout of the modules,physical product prototype and the final design** in the subsequent spirals.

REQUIREMENTS ANALYSIS:

The city tour system is a **web based application**.The main purpose of city tour is to provide a convenient way for people to book tickets for travel, amusement parks etc…To **run and maintain** a system of this level,software and hardware requirements are the major components.

The system after careful analysis has been identified to be presented with the following modules:

The Modules involved are

1. Administrator
2. Community Travellers
3. Gathering permissions

4. Location Information
5. Travelling
6. Reports
7. Authentication

Administration

Administration is the chief of the City tour management system. He can have all the privileges to do anything in this system. Administrator can register new customers, packages into the system. Admin can **keep track team of travellers and their performance**. He can provide **necessary arrangements to the travelers** who are going for outsourcing.

Company Employees

Employees are working for the company in this country or outsource to other country. Whenever an employee wants to go for outsourcing he needs to provide his complete documents like **education qualifications, passport, identification details** etc. After completion of visa processing he can move from here to destination country. Before going to outsourcing he knows the details of his **work location, work environment, technologies** etc… If he doesn't have any passport, he can provide necessary documents for applying the passport.

Permission gathering

The major issue starts here, because the company must provide a permit to the employees which are going for travel(incase special permission needed). The processing of permissions and toll permits are different dependents upon various provinces. For every processing ,the company must provide agents complete information like **permit details, location, no of days, package , expenditure details, experience of the employee of tour company** etc. with help of agents whenever the permit processing is complete then only the employee is ready to went for other countries.

Location Information

Before going to outsourcing an employee must know the details of the location which want to work there. This system provides maximum information to the employees which country they need to go. The major information goes to **food**

habits, hotel details, vehicles transportation, office environment, office timings, currency details etc.

Travelling

While going to the other states/cities the system provides the **complete information of mode of travelling** also. The major part goes to transport information, which location he is going, is there any direct is there, ticket conformed or not, executive or economy class, and seat details. After that the system provide vehicle from **bus station to his accommodation hotel room** also.

DESIGN PHASE AND DEVELOPMENT:

Design phase starts with the **design** in the baseline **spiral** and involves architectural, logical **design** of modules, physical product design and final design in the successive **spirals.**

Purpose:

The main purpose is to give a **general insight into the analysis and requirements** of the existing system or situation and for determining the **operating characteristics of the system.**

Scope:

This Document plays a vital role in the development life cycle (SDLC) and it describes the **complete requirement of the system**. It is meant for use by the developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

SYSTEM DESIGN

INPUT DESIGN:

Input design is a part of overall system design. The main objective during the input design is as given below:

- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

INPUT STAGES:

The main input stages can be listed as below:

- Data recording
- Data transcription
- Data conversion
- Data verification
- Data control
- Data transmission
- Data validation
- Data correction

INPUT TYPES:

It is necessary to determine the various types of inputs. Inputs can be categorized as follows:

- External inputs, which are prime inputs for the system.
- Internal inputs, which are user communications with the system.
- Operational, which are computer department's communications to the system?
- Interactive, which are inputs entered during a dialogue.

DATABASE DESIGN:

A database is an organized mechanism which has a **capability of storing info** through which users can retrieve stored info in effective manner.Data is **purpose of any database and in designing of database**, two step stones are followed.

- User requirements gathered together and database will meet requirements(**Information Level Design**)
- Next,user requirements is transferred to design for specific Database management system that will be used to implement system in question.(**Physical level Design**)

PROGRAMMING LANGUAGE ANALYSIS

So, for this genre of city tour management system,the following languages serve completeness.
Front End: PHP, JavaScript, HTML, CSS
Backend: MySQL, SQLite or any other language
Color Script Language: CSS

Why we mentioned these languages ?

1)JavaScript:

This language helps to make dynamic Website. It is a prototype –based object oriented scripting language which has first-class functions .It is like a functional programming scheme and support higher order functions. It can be easily embedded with/from HTML pages.

Usage of Document object model:

- Validating input values of a web form to make sure that they are acceptable before being submitted to the server.
- Changing images as the mouse cursor moves over them. This effect is often used to draw the user's attention to important links displayed as graphical elements. Because **JavaScript code can run locally in a user's browser (rather than on a remote server**), the browser can respond to user actions quickly, making an application more responsive. Furthermore, JavaScript code can detect user actions which HTML alone cannot, such as individual keystrokes.

2) PHP:

PHP is a general-purpose scripting language originally designed for web development to produce dynamic web pages. For this purpose, PHP code is embedded into this system's pages interpreted by a web server with a PHP processor module, which generates the web page document. **PHP can be**

deployed on most web servers and as a standalone interpreter, on almost every operating system and platform free of charge. A competitor to Microsoft's Active Server Pages (ASP) server side script engine and similar languages, PHP is installed on more than 20 million websites and 1 million web servers. PHP was originally created by Rasmus Lerdorf in 1995. The main implementation of PHP Group and serves as the de facto standard for PHP as there is no formal specifications.PHP is free software released under the PHP license.

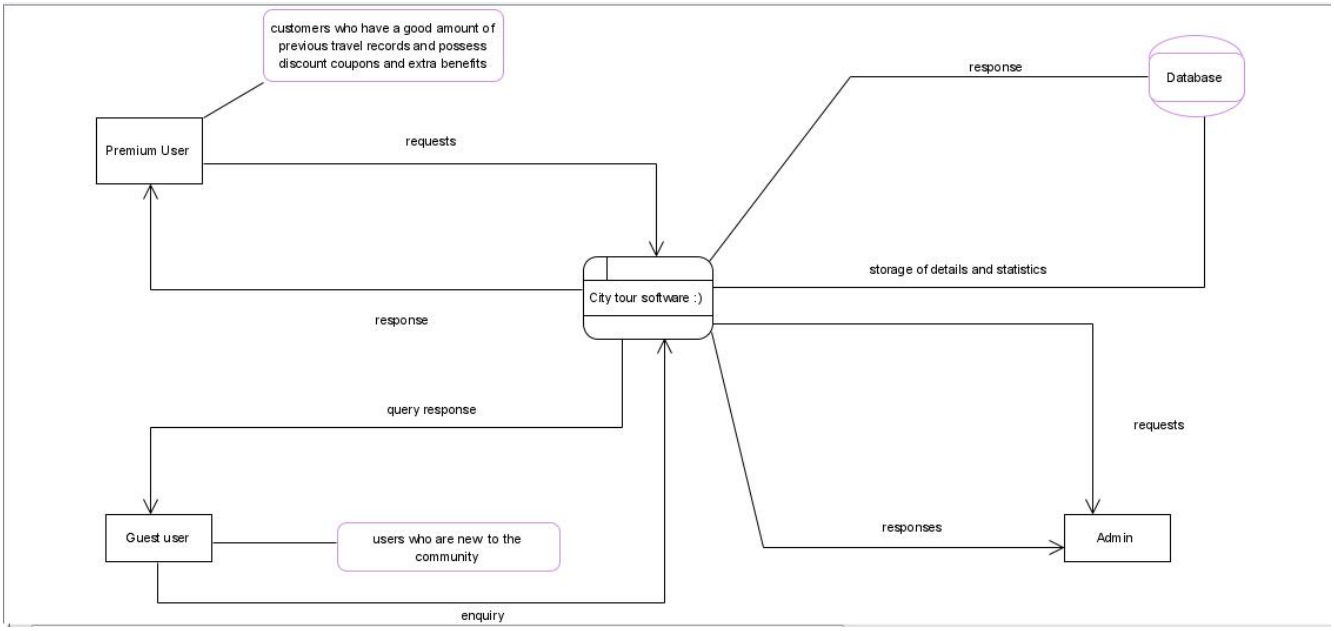
3)**HTML AND CSS**:

- HTML which stands for Hypertext Markup Language is the predominant markup languages for web pages. HTML is the **basic building block of Web Pages.** This is written with HTML in the form of HTML elements consisting of tags, enclosed in angle brackets (like), within the web page content.
- HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items**. It can embed scripts in languages such as JavaScript which affect the behavior of HTML Web Pages.** Web browsers can also refer to Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. The W3C , maintainer of both the HTML and the CSS standards, encourages the use of CSS over explicitly presentational HTML markup.

The system can also be designed in any other programming & markup languages also.
But the main requirement is that the language should be of **object oriented language** which is important for replicating the real world requirements into a software and fulfil it.
We, discussed and proceeded with the object oriented approach of modelling which is essential for designing a software in detail .

DATA FLOW DIAGRAMS

Flow of context



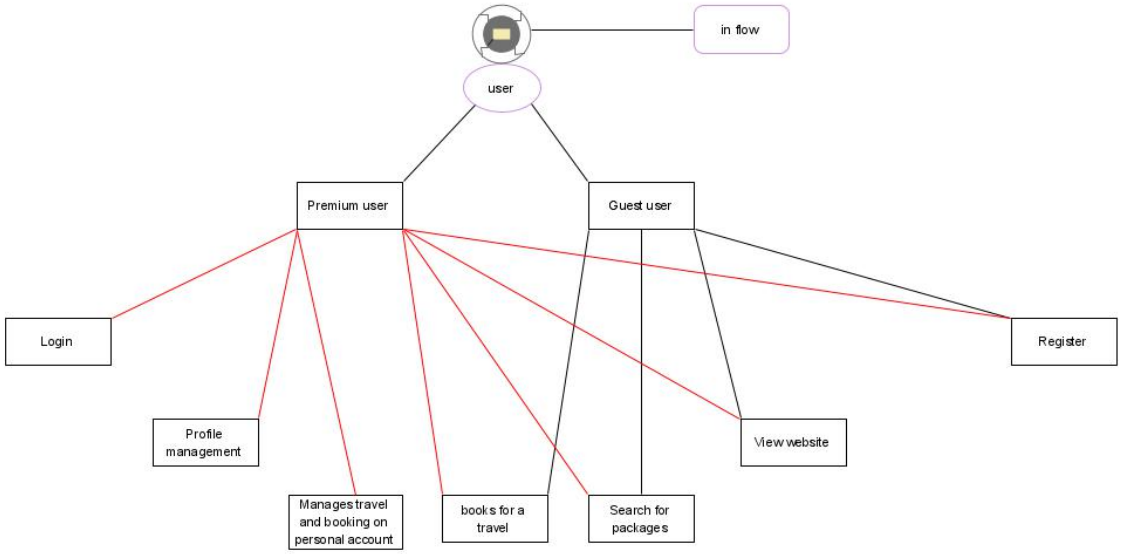
The basic flow of context in the system of our City tours management is depicted in the above diagram.
Basically, a user can be of two types:

- Users who are new to our community and are eager to travel
- Premium users who has an appreciable previous travel history and has unlocked premium features(say discounts,special packages)

City tour software is a **medium of interface** where users can get **guidance and travel assistance** from agents and manage the travel. Each user can request some information or feature and using the software, the agents/travelling agency will respond to it.

Guest users can clarify their queries related to their travel and can get guidance for their booking. Admins maintains details of users and request/responses and manages it in a organized way. The details are stored in database which further maintained and handled by database admin.

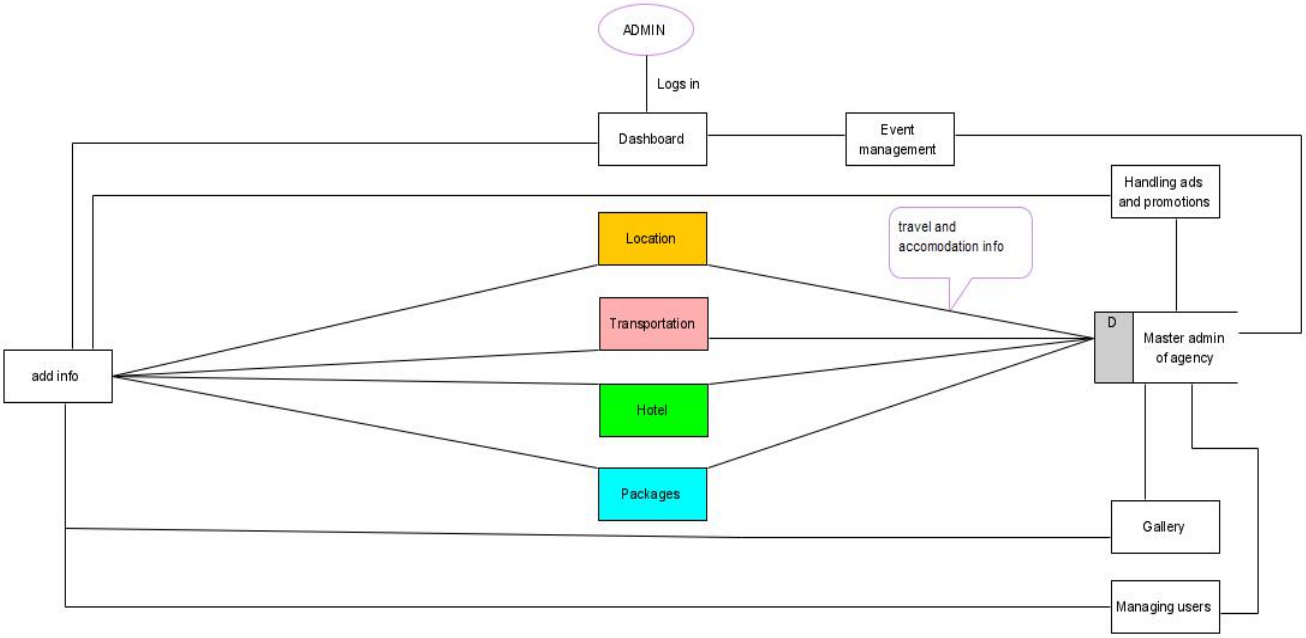
1) OBJECT FLOW IN USER



Data flow diagram for user (Traveller)

- User who are interested to travel via the system can actually access features of system like managing a profile ,maintaining a personal account which helps as a medium to undergo transactions and travel booking , search for their desired packages, view gallery and post their feed backs etc.
- Guest users can become premium users by increasing their travel history and booking of packages.

2) ADMIN DFD



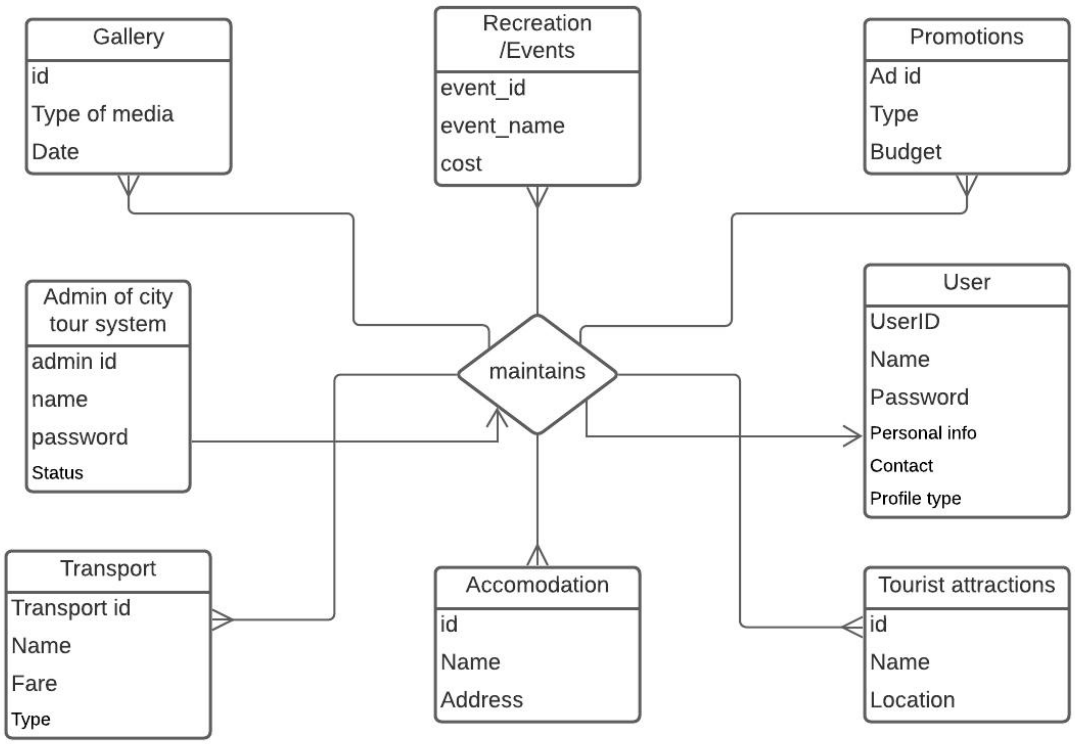
Admin activities are depicted in the above DFD .

- Admins can log in to their admin account and can add information about Tour details like Location,Transportation,Hotel,Packages and can modify dashboard.
- All admins can perform event management and maintain data of users and gallery of the main page of website. All these admin activities are compositely maintained by one super (master admin) admin.

DATABASE DESIGN

Entity-Relationship Diagrams

1) For admin



The above diagram explains the database hierarchy and logical relationship between admin ,user and other entities

An admin can maintain details of multiple users and maintains records of food and accommodation.

Entities and attributes with relationships:

Admin: Maintains details of many users , travel and accommodation, Website

(one-to-many relationship)

- Has an ID unique for each admin
- Each with a name and has account with password
- Status of privilege (Database admin /Super admin(Incharge of all sectors))

User:

- Has his unique Id
- Possesses an account with encryption, maintains his personal info
- Profile type(Premium user /VIP user/Guest)

Transport:

This entity is maintained for mode of transport and its details and details of journey has:

- Name
- Fair
- Type of transport
- Unique ID

Tourist attraction:

Maintained to store tourist location details like:

- Name
- Location
- City
- State

Event management:

City tour agency offers events and recreation for increasing enthusiasm of tourists like mini events and other fun activities

It contains:

- Event name
- Event id
- Cost

2) ER DIAGRAM FOR USER PROFILE

User registers and creates an account;maintains a profile

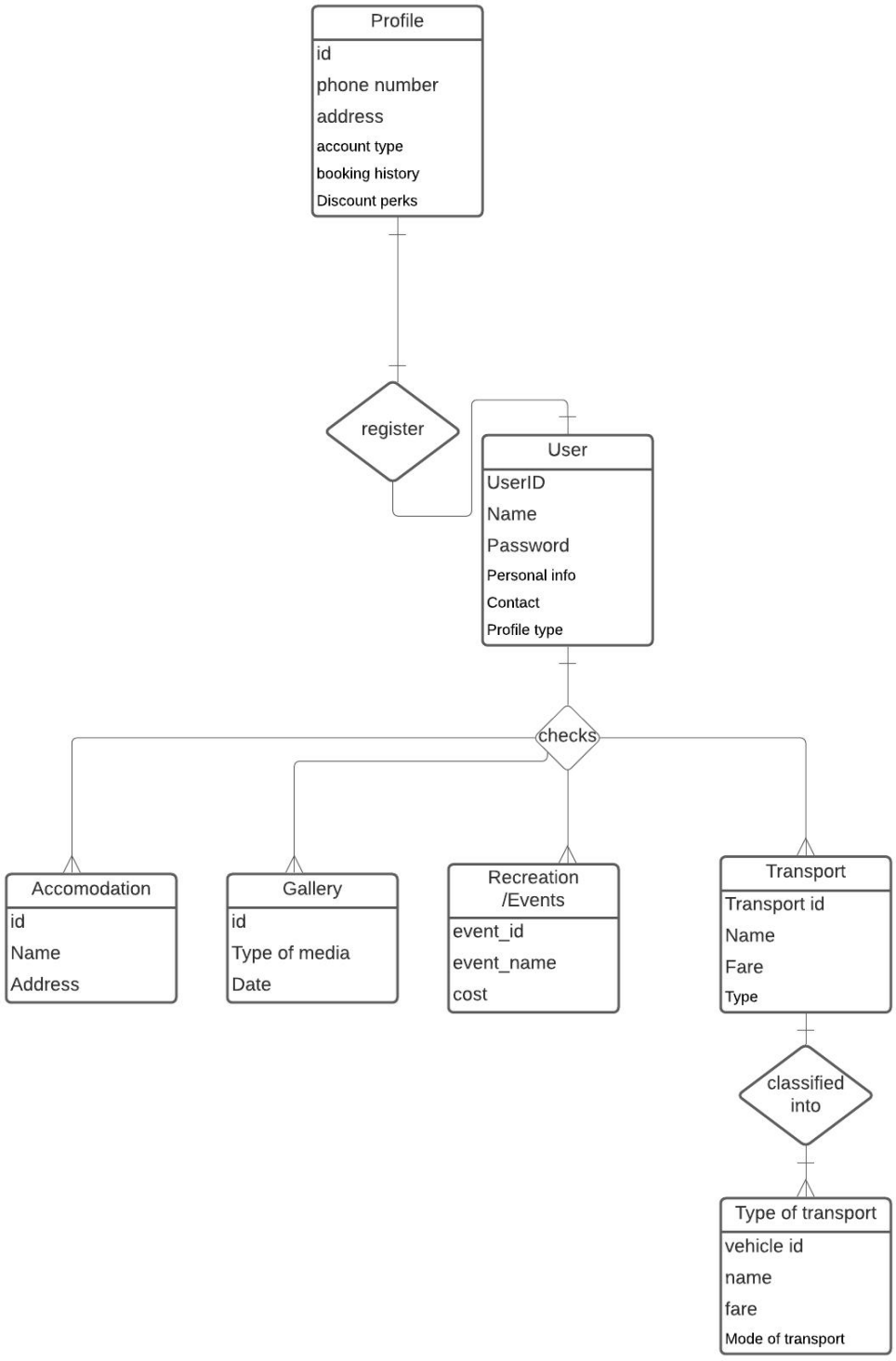
Profile has details like:

- Id
- Phone number
- Address
- Account type
- Personal info
- Perks of discount(which determines a premium user)
- User then checks on gallery ,accommodation,events ,transport and gallery of the tour company.
- Transport is classified into by its type.

Type of transport:

- Vehicle id
- Name
- Fair
- Mode of transport

Accommodation is used to maintain records of details of hotel where the travelers can stay (if necessary)


Profile
id
phone number
address
account type
booking history
Discount perks
register
User
UserID
Name
Password
Personal info
Contact
Profile type
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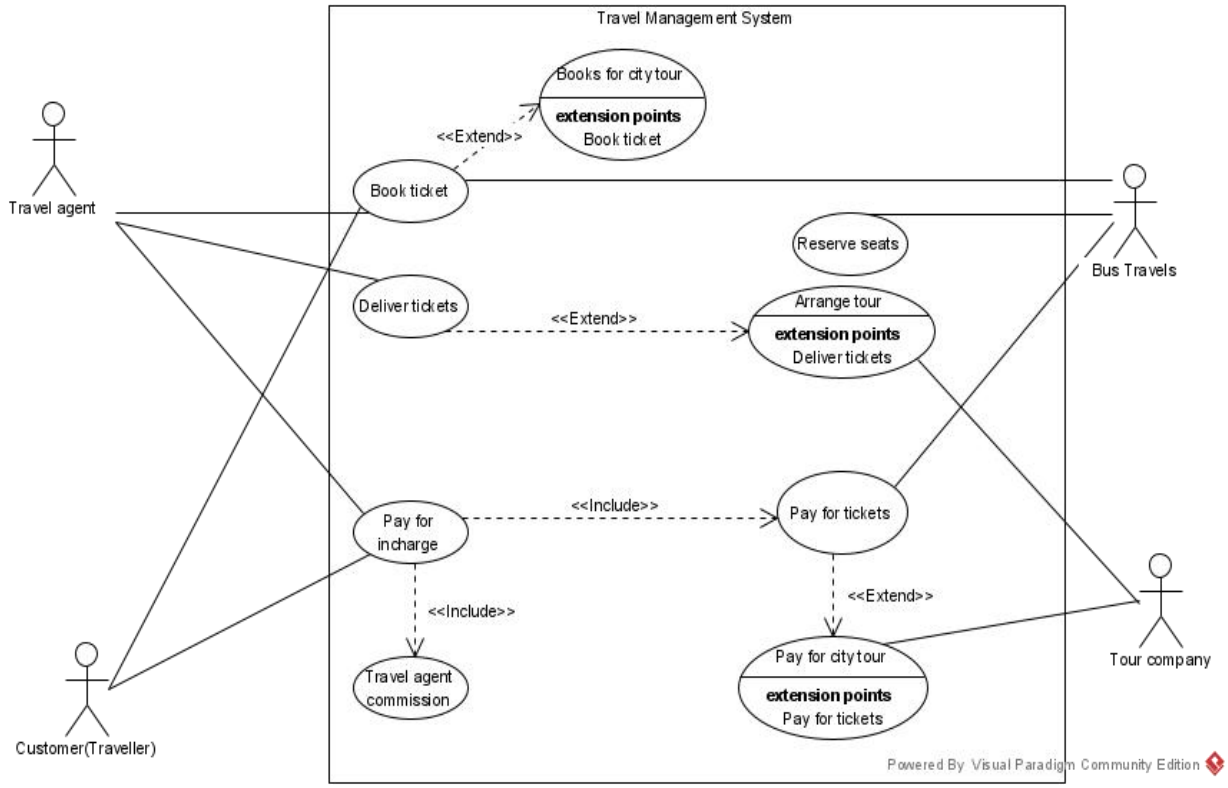
OBJECT ORIENTED APPROACH OF THE SYSTEM

Usecase Diagram:



- **Usecase diagram is a business diagram** used to provide a story of how a system,and its actors will be utilized to achieve a specific goal.

- The purpose of usecase is to tie the business needs of system to **design parameters** of system to ensure that completed system achieves goals established by business requirements.

Actors involved:

- Traveller(Customer)
- Travel Agent
- Tour company
- Travels(Bus transport) Company

Goals:

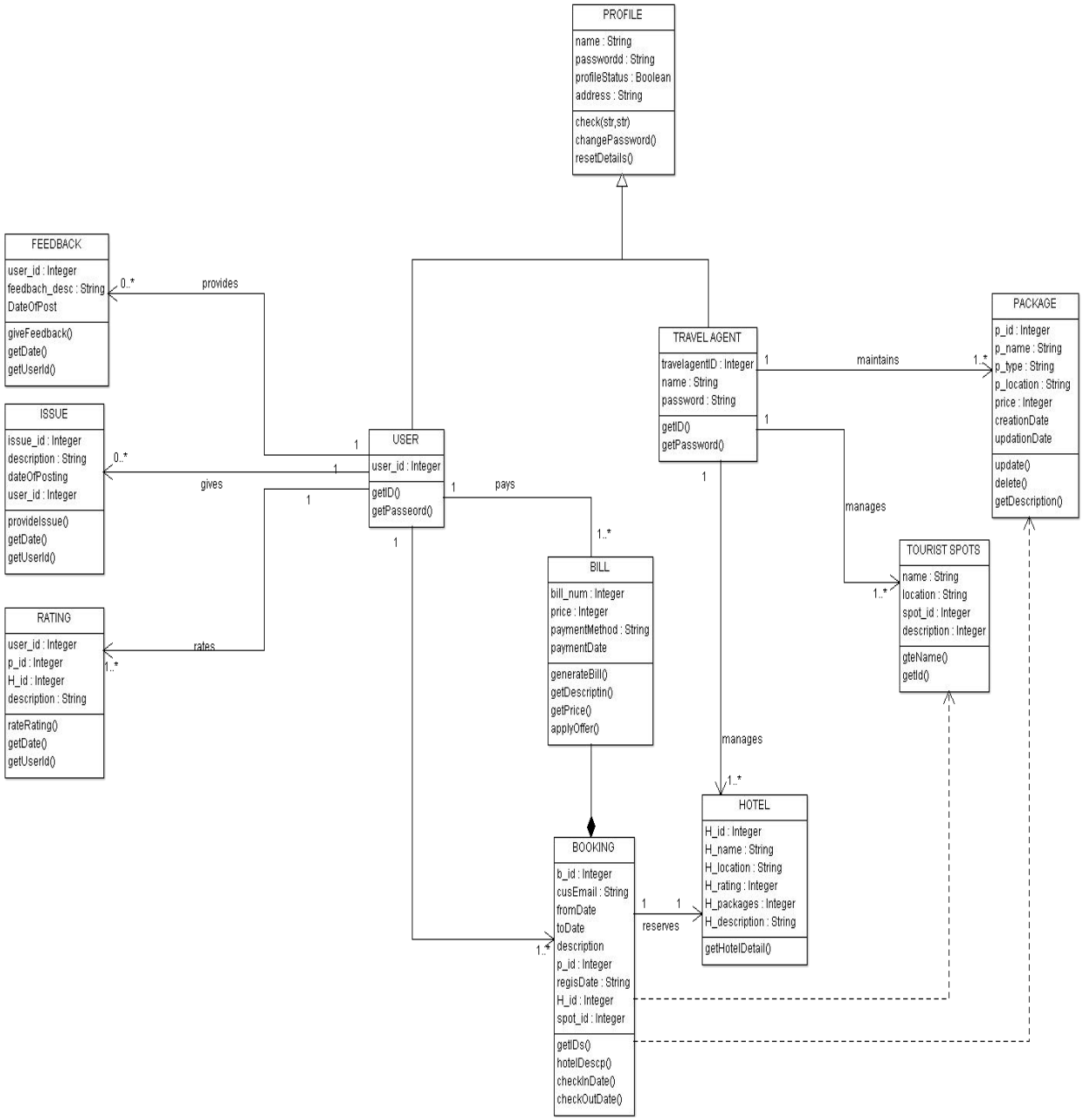
Actors	Goals
Customer	➢ Maintain profile ➢ Books tickets and makes journey ➢ Pay bills ➢ View website and provide suggestions
Travel agent	➢ Organizes the travel ➢ Coordinates the travelling people ➢ Helps people regarding the travel and acts as bridge between customer and company
Tour company	➢ Launch a package ➢ Add/modify features and travel schedules ➢ Declare special offers/tour plans ➢ Deals with food and accommodation ➢ Spends user amount on their needs ➢ Maintain the tour website
Travel transport company	➢ Manages transport facilities ➢ Bus booking and seat allocation ➢ Tracking routes for jouney

Scenarios:

- Customer books a bus ticket
- Customer pays for city tour
- Bus company allocates seats
- Tour agency arranges a tour

- Tour agent organizes the tour
- Travel agency maintains food and accommodation
- Customer gets a special discount/package

CLASS DIAGRAM:



CLASSES IDENTIFIED:

- Profile
- Package
- User
- Feedback
- Bill
- Tourist spots
- Hotel
- Rating
- Booking
- Issue
- Travel Agent

DATA DICTIONARY:

- **User** - The one who registers themselves in the system by entering their details.
- **Profile** - Created by the user who uses this system. It is the mandatory requirement needed to use this system furthermore.
- **Package** - Several deals and offers offered by the city tour system to attract users, tourists etc…
- **Feedback** - Overview response given by the tourists who used this system and this response is used by the system to improve the processes involved in the system.
- **Bill** - Amount tallied by the city tour system for the users for the expenses that took place for accommodation, travel etc…
- **Tourist spots** - Places that the city tour offers to be travelled for the tourists.
- **Hotel** - Used for accommodation of tourists if needed.
- **Rating** - Review in terms of points or stars by the tourists who have used the city tour.
- **Booking** - Tourists or users can book their tickets for amusement parks,city tours etc..
- **Issue** - Problems that arise during the travel,accommodation,booking etc…
- **Travel Agent** - One who accompanies the tourists during city tours and ensures safe travel throughout.

ATTRIBUTES USED IN CLASSES:

Profile :

- Name
- Password
- Profile_Status
- address

Travel agent :

- Travel agent_id
- name
- password

Package :

- p_id
- p_name
- p_type
- p_location
- price
- creationDate
- updationDate

User :

- user_id

Hotel :

- H_id
- H_name
- H_location
- H_rating
- H_package
- H_description

Bill:

- Bill_num
- Price
- paymentMethod
- paymentDate

Booking:

- b_id
- customerEmail
- fromDate

- toDate
- description
- p_id
- H_id
- Spot_id

Feedback :

- user_id
- feedback_description
- dateOfPost

Issue :

- user_id
- issue_id
- description
- dateOfPost

Rating :

- user_id
- description
- H_id

- p_id

Tourist spots :

- Name
- Spot_id
- location
- Description

CLASS **R**ESPONSIBILITY **C**OLLABORATIONS

First column represents the **methods** used in each classes. **Second column** in the table **describes the respective methods** and the **last column** denotes the **classes collaborated** with.

Feedback:

givefeedback()	Get the feedback of tourists to improve the system.	➢ User
getDate()	Get the date of the feedback generated.	
getUserId()	Get the user id from the user.	

Rating:

reviewRating()	Review the rating of users to debug the errors and glitches to improve the system.	➢ User
getDate()	Get the date of the rating generated.	
getUserId()	Get the user id from the user.	

Bill:

generateBill()	Generate the bill amount spent for travel,accommodation,etc…	➢ User ➢ Booking
getDescription()	Get the description of amount spent for each instance.	
applyOffer()	Apply codes,coupons to avail a reduction in the bill.	

Hotel:

getHotelDetails()	Get the details of hotel that is used for accommodation of tourists.	➢ Booking ➢ Travel Agent

Issue:

provideIssue()	Users can provide issues if they face any during their travel.	➢ User
getDate()	Get the date of the issue generated.	
getUserId()	Get the user id from the user.	

User:

getId()	Get the user id from the user.	➢ Feedback ➢ Issue ➢ Rating ➢ Profile ➢ Bill ➢ Booking
getPassword()	Get the password from the user.	

Travel Agent:

getId()	Get the user id from the user.	➢ Profile ➢ Hotel ➢ Tourists spot ➢ Package
getPassword()	Get the password from the user.	

Booking:

getHotelDesc()	Get the description of hotels for accommodation.	➢ User ➢ Bill ➢ Hotel ➢ Tourists spot ➢ Package
checkinDate()	Date that tourists enter the hotel.	
checkoutDate()	Date that tourists leave the hotel.	

IMPLEMENTATION AND TESTING PHASE

5.IMPLEMENTATION:

Hardware Requirements:

- PIV 2.8 GHz Processor and Above
- RAM 512MB and Above
- HDD 40 GB Hard Disk Space and Above

Software Requirements:

- WINDOWS OS (XP / 2000 / 200 Server / 2003 Server)
- Visual Studio .Net 2008 Enterprise Edition
- Internet Information Server 5.0 (IIS)
- Visual Studio .Net Framework (Minimal for Deployment) version 3.5
- SQL Server 2005 Enterprise Edition

INPUT MEDIA:

At this stage choice has to be made about the input media. To conclude about the input media consideration has to be given to;

- Type of input
- Flexibility of format
- Speed
- Accuracy
- Verification methods
- Rejection rates
- Ease of correction
- Storage and handling requirements
- Security
- Easy to use
- Portability

Keeping in view the above description of the input types and input media, it can be said that most of the inputs are of the form of internal and interactive. As

Input data is to be the directly keyed in by the user, the keyboard can be considered to be the most suitable input device.

OUTPUT DESIGN:

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also used to provide a permanent copy of the results for later consultation. The various types of outputs in general are:

- External Outputs whose destination is outside the organization.
- Internal Outputs whose destination is with in organization and they are the User's main interface with the computer.
- Operational outputs whose use is purely with in the computer department.
- Interface outputs, which involve the user in communicating directly with the system.

TESTING:

Testing is a process of executing a program with the interest of finding an error. A good test is one that has the high probability of finding the yet undiscovered error. Before a system is put into operation, its component programs must be tested to make sure they work both individually and as a unit (Chiemeke and Egbokhare, 2006).

OPERATIONS IN SYSTEM TESTING

COMPONENT TESTING :This deals with the verification of the efficacy of the software to be sure of the performance of the expected functions. It also involves performing a progressive overall testing of the system's objective.

DATABASE TESTING :In testing the database, it is good to ensure that the storage and retrieval functions of the database functions properly. Hence, the system database connection with the interface worked perfectly. The tables with information concerning the various aspects of software were rightly placed and are easily accessible by the system administrator.

BLACK BOX TESTING :Black box testing was done to find out the following information as shown below:

i. Incorrect or missing functions

ii. Interface errors

iii. Errors or database access

iv. Performance error

The mentioned testing was also carried out successfully for this application according to the user's requirement specification.

After this,

TEST DATA OUTPUT :After preparing test data, the system under study is tested using the test data. While testing the system using test data, errors were again uncovered and corrected by using above testing and corrections.

WEB HOSTING :An important implementation process of this system includes hosting the websites online with the help of a web hosting service which will make it available to all travelers. A web hosting service is a type of internet hosting service that allows individuals and organizations to make their own website accessible through World Wide Web.

ASSESSING END USER NEEDS: An important element in creating training plan is to evaluate the technical skill level(s) of those who will actually use the application on a daily basis (Nwagboso, 1993). For this system, technical novices will need more focused step-by-step instruction in basics, whereas more skilled computer users will quickly pick up the basics and benefit from the training that shows them how to use more obscure or advanced features of the application.

CODE SNIPPETS FOR THE CLASS DIAGRAM:

PROFILE:

```
public class PROFILE {

  public String name;

  public String password;

  public Boolean profileStatus;

  public String address;

  public void check( str,  str) {

  }

  public void changePassword() {

  }

  public void resetDetails() {

  }

}
```

FEEDBACK:

```
public class FEEDBACK {

  public Integer user_id;

  public String feedback_desc;
```

```
  public DateOfPost;

  public void giveFeedback() {

  }

  public void getDate() {

  }

  public void getUserId() {

  }

}
```

TRAVEL AGENT:

```
import java.util.Vector;

public class TRAVEL AGENT extends PROFILE {

  public Integer travelagentID;

  public String name;

  public String password;

  public Vector  manages;

  public Vector  maintains;

  public void getID() {

  }
```

```
  public void getPassword() {

  }

}
```

PACKAGE:

```
public class PACKAGE {

  public Integer p_id;

  public String p_name;

  public String p_type;

  public String p_location;

  public Integer price;

  public creationDate;

  public updationDate;

  public void update() {

  }

  public void delete() {

  }

  public void getDescription() {

  }

}
```

ISSUE:

```
public class ISSUE {
  public Integer issue_id;
  public String description;
  public dateOfPosting;
  public Integer user_id;
  public void provideIssue() {
  }
  public void getDate() {
  }
  public void getUserId() {
  }
}
```

USER:

```
import java.util.Vector;
public class USER extends PROFILE {
  public Integer user_id;
   public Vector  provides;
      public Vector  gives;
      public Vector  rates;
```

```
    public Vector  pays;
  public void getID() {
  }
  public void getPassword() {
  }
}
```

RATING:

```
public class RATING {
  public Integer user_id;
  public Integer p_id;
  public Integer H_id;
  public String description;
  public void rateRating() {
  }
  public void getDate() {
  }
  public void getUserId() {
  }
}
```

BILL:

```
import java.util.Vector;

public class BILL {

  public Integer bill_num;

  public Integer price;

  public String paymentMethod;

  public paymentDate;

    public Vector  myBOOKING;

    public Vector  myBOOKING;

    public USER pays;

  public void generateBill() {

  }

  public void getDescriptin() {

  }

  public void getPrice() {

  }

  public void applyOffer() {

  }

}
```

TOURIST SPOTS:

```
public class TOURIST SPOTS {
  public String name;
  public String location;
  public Integer spot_id;
  public Integer description;
  public void gteName() {
  }
  public void getId() {
  }
}
```

BOOKIING:

```
import java.util.Vector;
public class BOOKING {
  public Integer b_id;
  public String cusEmail;
  public fromDate;
  public toDate;
  public description;
  public Integer p_id;
```

```
  public String regisDate;
  public Integer H_id;
  public Integer spot_id;
      public Vector  myBILL;
    public Vector  myBILL;
    public HOTEL reserves;
  public void getIDs() {
  }
  public void hotelDescp() {
  }
  public void checkInDate() {
  }
  public void checkOutDate() {
  }
}
```

HOTEL:

```
public class HOTEL {
  public Integer H_id;
  public String H_name;
  public String H_location;
```

```
  public Integer H_rating;

  public Integer H_packages;

  public String H_description;

  public void getHotelDetail() {

  }

}
```

6.0 FUNCTIONAL REQUIREMENTS:

The facilities provided by this portal are following :

- Providing holiday packages for the customers.
- Transportation (Travel) for the destination which can be of following modes:Car transports, Bus transports, Flight(incase of distant travels) and Car travel.
- Payment handler and online transaction manager
- Distance calculator for the destinations.
- Online Hotel Reservation
- Available hotels and accommodation list

MAIN PAGE: Customer logs in to the website and peeks through our main page, view gallery of travels, browse through packages and book desired travel package. To enable the features, user must have created the account and logs in with password. Then he is proceeded to payment page then booking is confirmed.

HOLIDAY PACKAGE :Travel Management System specializes in **offbeat holidays for people** from all walks of life and offers flawless customized itineraries to explore India and its neighbouring country whilst pumping up your adrenalin. As tour operator city tour management is capable of providing you all the facilities at a low price. Here customer can mention their budget.

TRAVELLING: City Tour Management provides **reservation facility** to their customers for all types of travels they provide **booking for train, cruise, car and flight.** If customer wants to cancel their reservation he can cancel it through cancellation form provide in this project. Not only reservation but status and timings are also provided here to the customers.

HOTEL ACCOMODATION: City Tour Management gives the **list of different hotels and guest houses** in India. Customers can decide their hotels or guest houses according to their budget.

HOTEL RESERVATION: Customer can use hotel reservation facility provided by the Voyage Management so that they can stay on their trip. If customer likes to cancel the hotel reservation they can cancel the hotel reservation. List of different hotel and guest houses are provided by the Voyage Management.

FOOD & OTHER EVENTS: Customer can use accommodation facilities of the system and satisfy their needs from best multi-cuisine restaurants around. Also,for recreation purposes, the tour company provides and conducts many special events and such things.

TOURISM COMMUNITY: This system helps people to form a community of travel enthusiasts and encourages further travelling. This community acts as a bridge to provide satisfaction for customers and acts as representatives of them.

6.0 LIMITATIONS FOUND ON PROTOTYPING

- The size of the database increases day-by-day, increasing the load on the database back up and data maintenance activity.

- Training for simple computer operations is necessary for the users working on the system.

- Pandemic and personal health management was not particularly focused.

6.1 RECOMMENDATION AND IMPROVEMENTS IN PROTOTYPE:

• The following system has been recommended for implementation of the web application:

  - Intel i5 processor, 3GB RAM, 2.5GHZ, 300GB HD, Windows 7, Web cam .
  - Apache server with good configuration.
  - MYSQL database management software.
  - Microsoft internet explorer or any other web browser
  - Windows XP or higher operating systems

- The personnel that will oversee the day to day running of the application should have requisite computer literacy (B.Sc Computer Science) and certification in web development

- Conversion to the new system should be at beginning of the financial year and parallel changeover is recommended where the old and the new system will be running until a satisfactory result has been obtained by management. This will give room for maintenance of the system.

- **Fitness Tracker:**

  Enabling access to easy health care management- thermal scanners to monitor customers for their safety and proper sanitary measures enabled. A **thermal fitness tracker** is provided to all tourists to monitor the health during the travel and is checked by the tour company as safety is at most priority for the journey.

- We would like to suggest possible area for future research in Travel Management system. For this project there are several avenues for future investigation because this research is focused on the dominant behavior of travelers booking for travel needs.

- This System being web-based and an undertaking of Cyber Security Division, needs to be thoroughly tested to find out any security gaps.

- We also found out that a view of travel/tourist attraction is essential for the people to make them more attracted towards tourism. So, we provide **a virtual tour – a VR based travelling experience** to places offered in packages, so that people can know a lot about the places and will be interested in visiting the place.

- A console for the data centre may be made available to allow the personnel to monitor on the sites which were cleared for hosting during a particular period.

- Moreover, it is just a beginning; further the system may be utilized in various other types of auditing operation viz. Network auditing or similar **process/workflow based applications**

- To help tourists accessing the historical facts, we would generally provide common paper pamphlets with facts. Due to the challenging pandemic Corona, we follow proper guidelines and take safety measures. In the view to avoid using the same pamphlet by all the tourists, we would design a QR code to access the historical facts. With the tour guide software, tourists could scan the QR code and can get the facts of those hotspots.

6.3 MERITS AS PER USER SIDE:

The project is identified by the merits of the system offered to the user. **The merits of this project for the users (as obtained from prototyping)** are as follows: –

- It's a **web-enabled project**. With users having more surfing experience,it is very user friendly.
- This project offers user to enter the data through **simple and interactive forms.** This is very helpful for the client to enter the desired information through so much simplicity.
- The user is mainly more concerned about the validity of the data, whatever he is entering. There are checks on every stages of any **new creation, data entry or updation** so that the user cannot enter the invalid data, which can create problems at later date.

- Sometimes the user finds in the later stages of using project that he needs to update some of the information that he entered earlier. There are options for him by which he can update the records. Moreover there is restriction for his that he cannot change the primary data field. This keeps the **validity of the data to longer extent.**
- User is provided the **option of monitoring the records** he entered earlier. He can see the desired records with the variety of options provided by him.
- **Data storage and retrieval** will become faster and easier to maintain because data is stored in a **systematic manner and in a single database.**
- Decision making process would be greatly enhanced because of **faster processing of information** since data collection from information available on computer takes much less time then manual system.
- Allocating of sample results becomes **much faster** because at a time the user can see the records of last years.
- **Easier and faster data transfer** through latest technology associated with the **computer and communication.**
- Through these features it will **increase the efficiency, accuracy and transparency**

7.CONCLUSION:

Tourism is currently recognized as a **global industry** which is highly growing at a high rate, and like any industry that grows rapidly, the activities of tourism can have a substantial impact on the **local development processes**. The local effects of the industry are varied and usually distinctive to the industry. Making travelling easy was our prime motive which we've achieved at certain level. Time is the most valuable resource. So, this city tour management system reduces valuable time spent on weary traditional way of manually booking everything and boarding. So, using this modern approach, **users can travel at ease** to their favourite destinations.