

Table of contents:

- 1.0 Introduction
- 2.0 Objective
- 3.0 Existing system
- 4.0 Proposed system
 - 4.1 Functionality
- 5.0 Feasibility of project
 - 5.1 Feasibility report
 - 5.1.1 Technical Feasibility
 - 5.1.2 Operational Feasibility
 - 5.1.3 Economic Feasibility
- 6.0 SDLC Methodology
 - 6.1 What is SPIRAL MODEL??!
- 7.0 Phases involved in SPIRAL MODEL
 - 7.1 Requirement analysis
 - 7.1.1 Scope
 - 7.1.2 Objective
 - 7.1.3 Analysis
 - 7.1.4 Project outcome
 - 7.1.5 Business requirements

- 7.2 Risk analysis and evaluate alternative
 - 7.2.1 Problem faced in existing system
 - 7.2.2 Analysis of the alternative system
 - 7.2.3 Features in proposed system
- 7.3 Development and design
 - 7.3.1 Object oriented approach
 - 7.3.2 DB design ER diagrams
 - 7.3.3 Dataflow diagram
 - 7.3.4 Software requirements
- 7.4 Implementation and testing

8.0 Functional requirements

9.0 Rapid Prototype

- 9.1 Code implementation for class and system
- 9.2 Limitation found in prototype
- 9.3 Recommendation and improvement in prototype

10.0 Conclusion

1.0 INTRODUCTION

The Travel and Tourism Management System 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. 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.

2.0 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.

3.0 EXISTING SYSTEM

In the existing system, each task is carried out manually and processing is also a tedious job. In previous system travelers were maintaining time table details manually in pen and paper, which was time taking and costly. The travelers is not able to achieve its need in time and also the results may not accurate. Because of the manual maintenance there are number of difficulties and drawbacks exist in the system. Some of them are

- Increased transaction leads to increased source document and hence maintenance becomes difficult.
- If any admin, user entry is wrongly made then the maintenance becomes very difficult.

4.0 PROPOSED SYSTEM

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.

Advantages of the Proposed System:

- Gives accurate information
- Simplifies the manual work
- It minimizes the documentation related work
- Provides up to date information
- Friendly Environment by providing warning messages.
- travelers details can be provided
- booking confirmation notification

4.1 FUNCTIONALITY

The customer and the administrator are the two parties which interact with the database, who have different 'view level schemas' to the database information.

A. CUSTOMER SERVICES

- Create an account by registering, modify account details, deregister from the services
- Make a fresh multi passenger reservations, the customers are provided to choose their reservation spots rather than being randomly allocated positions.
- View, modify or cancel past reservations
- o Customers are provided with different reservation status, just as in real life systems
- o Customers are informed through emails about updates in the reservations

o Customers are informed about the various seasonal offers and discounts.

B. ADMINISTRATOR SERVICES

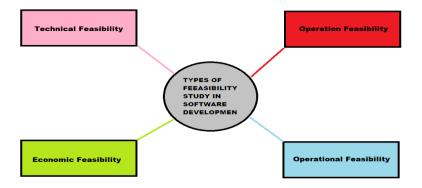
- Add new transport services or update the existing services
- o Access and modify customer accounts or customer reservations.

5.0 FEASIBILITY OF THE PROJECT

5.1 FEASIBILITY 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 and Economical 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
- Operation Feasibility
- Economic Feasibility
- Operational Feasibility



5.1.1 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?

5.1.2 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.

5.1.3 ECONOMIC FEASIBILITY:

A system can be developed technically and that will be used if installed must still be a good investment for the organization. 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.

5.1.4 OPERATIONAL 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

- 1. management ability
- 2. source sufficiency to ensure wholesome completion of work

6.0 SDLC METHODOLOGY USED

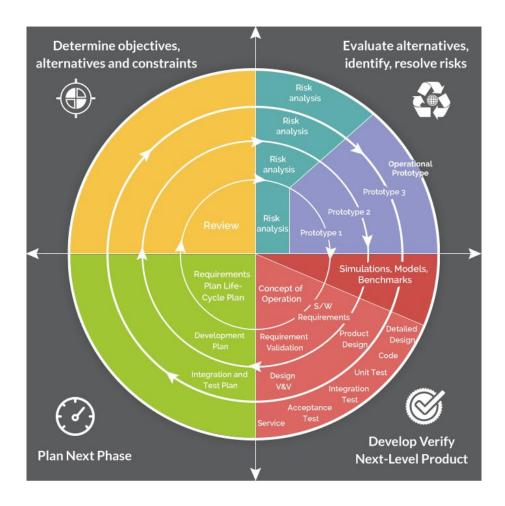
This application developed using the **SPIRAL MODEL.** Spiral Model SDLC is one of the models used to organize the working process around a software project. Along with Waterfall, Agile, Iterative, V-Shaped and Big Bang model, SDLC Spiral model aims at lowering the possible risks and increasing the chances of huge success of the final product in software development.

6.1 WHAT IS SPIRAL MODEL??!

A Spiral model SDLC represents a highly systematic approach to software development that essentially combines Waterfall and Iterative models. First, let's have a look at Waterfall and Iterative models to have a better idea of how Spiral works. In the Waterfall model, software development is carried out in a linear manner, and 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 concept of Iterative Model is more complicated. 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.

Thus, Spiral Model of SDLC takes a gradual approach of Waterfall and the repetitive nature of the Iterative model to make software development more flexible for projects with strict initial scopes. Plus, it enables dealing with risks at any stage.



Advantages:

- Estimates(i.e. budget, schedule etc.) become more realistic as work progresses, because important issues discovered earlier.
- It is more able to cope with the changes that are software development generally entails.

Software engineers can get their hands in and start working on the core of a project earlier

7.0 PHASES INVLOVED IN SPIRAL MODEL

7.1 REQUIREMENT ANALYSIS

7.1.1 SCOPE

Tourism Management System is an integrated software developed for tour operating companies. The main aim of this project is to help the tourism companies to manage their customers, vehicles and agent. It makes all operation of the tour company easy and accurate. The standalone platform makes tourism management easy by handing agencies requests and providing servers for the customers located at different parts of the various cities. Different modules have been incorporated in this project to handle different parts and sector of the tour management field.

7.1.2 OBJECTIVES

The Tourism Management System is a web based application and maintains a centralized repository of all related information. The Objective of this project is to develop a system that automates the process and activities a travel age and customer details. The purpose is to design a system using which one can perform all operations related to travelling and sight-seeing.

7.1.3 ANALYSIS

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system is viewed as a whole and the input to the system are identified. The output from the organizations is traced to the various processes.

This chapter aims to describe the problem analysis for the existing system and the requirement analysis for the purpose system, Travel management system.

There are many fact-gathering techniques that can be used in gathering the information such as interview, observation, questionnaires and other methods. Analysis follows the problem recognition and feasibility phases and must be completed before the design phase can begin

7.1.4 PROJECT OUTCOMES

There are some objectives or outcomes has each project. So. my Project has some outcomes or objectives. The objectives are given below briefly.

- This System provide to connect directly Customers and Agent through internet.
- This System provide facilities to modify and delete tourist's data as well as client data.
- This System provide feedback mechanism for tourist.
- This System provide some social media links.
- This System provide information about the Inbound and Out-bound Tour Packages.
- This System maintain & control the database of tourists' information.
- This System display attractive tourist places.
- This System give a variety of travel services that will sure to match all your priorities.
- This System help to make strong relationship with customers so that they can enjoy that holiday of their dreams
- This System also helps to develop tourism with different cultures so that they enrich the tourists experience and build pride.
- This System will provide display platform in where a tourist can find their tour places according to their choices.

7.1.5 BUSINESS 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.

7.1.6 DATA GATHERING TECHNIQUE USED

7.1.6.1 INTERVIEW

For the interview we went to the Faith motors company in benin and interviewed some travelers and workers in the company. Those interviews were very useful to us. We analyzed the problems according to the information received.

First, we interviewed the travel agent of the company. We asked him how they arrange buses in central bus stand and how does the exact process happen. First he told us how the day to day time table is created, where in every 15minutes a bus turned out from the central bus stand. According to this process, the passengers can book any amount of tickets they want. In the crowded days he said they put extra buses for most crowded and common routes.

7.1.6.2 OBSERVATION

When we went to the central bus stand to get information from the travel agents for our project, we saw that some errors should improve. One of them is there is no proper place to stay the passengers until the buses come. So passengers suffer from the sunshine, rain, dust. Next thing is there is no proper way to get the bus details for the passengers. Main way of collecting details is via the booking stand, but if the travel agent is not on seat, then the passengers have to stay until he comes

7.2 RISK ANALYSIS AND EVALUATING ALTERNATIVE

7.2.1 PROBLEM FACED IN EXISTING SYSTEM

As the main transportation system in Faith motors is buses for interstate travelling, we were well aware of several problems involved with the Bus Travel. From the analysis of the current system, a list of several problems at each level was prepared.

• MANAGEMENT LEVEL

The management level deals with coordinating all the actions within the business to make sure that the business gains profit while providing a satisfying service to the customers. The following are some of the problems faced at this level

- 1. Modification of the Schedules can be time consuming and very expensive, since the manually prepared schedule has to be sent for printing and then be distributed to the concerned stations where the buses can be boarded by the passenger.
- 2. Since most of activities are performed manually, they are time consuming. The archiving of several documents has given rise to a need for more storage space and thus more expense.
- 3. Changes in schedule cannot be conveyed to the customer soon enough to satisfy the customer

CUSTOMER LEVEL

The management and staff constantly try to improve the efficiency of the system to make sure that the customers benefit from the system. The customers may also face several problems with the use of the system which may cause annoyance to them. So problems faced by customers are

- 1. Required to contact the bus station by telephone to obtain information regarding the schedule details
- 2. The seat can be obtained on a first come first served basis, depending on the people who reach the bus first after the purchase of the tickets.
- 3. Customers may not be informed of any changes in schedule if they had not provided their contact details
- 4. Sometimes data of the booking process that was filled in by the customers are lost because of inaccurate work. Problems also occur when the important data that fill in the form is not complete such as contact number. It will cause a problem for the responsible travel agent to contact this person to inform them when there is a problem

• TRAVEL MANAGEMENT LEVEL

- 1. Any alterations or delays in schedule were not efficiently been sent to customers and customers were uncomfortable facing delay situations and alterations..
- 2. 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.
- 3. Manual performing of tasks made the whole management a dreadful time consuming one. It also increased expenses and increased need for storage space.

7.2.2 ANALYSIS OF THE ALTERNATE SYSTEM

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. The TMS concept, tracks the sale and use of tickets through data which is stored in a central database and updated by Faith motors Transport Company, enabling the passenger to check-in and board the bus without holding a paper ticket. For the Faith motors company, TMS offers a number of clear benefits.

They reduce document distribution costs, eliminate paper-ticket fraud, and 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

Access to all important matters are not always locked and can be opened easily at the time of urgency. 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 in almost all configurations

7.2.3 FEATURES IN PROPOSED SYSTEM

- I. Ensure data accuracy
- II. Records are efficiently maintained by DBMS.
- III. DBMS also provides security for the information.
- IV. Any person across the world, having internet can access this service
- V. Availability of seats can be enquired very easily.
- VI. Passengers can also cancel their tickets easily.
- VII. Minimum time needed for the various processing
- VIII. Better service
- IX. Minimum time required. This would help the corporation prepare and organize its schedules more efficiently on the basis of demand.

7.2.4 IMPACTS ON TRAVRL AGENCY

- 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.

7.3 <u>DEVELOPMENT AND DESIGN</u>

CHOICE PROGRAMMING LANGUAGE

JAVASCRIPT

JavaScript also known as ECMAScript is a prototype-based object-oriented scripting language that is dynamic, weakly typed and has first-class functions. It is also considered a functional programming language like Scheme because it has and supports high order functions. The primary purpose for using JavaScript in this system is to write functions that are embedded in or included from HTML pages and that interact with the Document Object Model (DOM) of the page. Some simple examples of this usage are:

- 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. The wider trend of Ajax programming similarly exploits this strength.

PHP 4 and PHP 5

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 Leadoff 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.

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 Webpages. 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 tags normally come in pairs like. The first tag in a pair is the start tag, the second tag is the end tag (they are also called opening and closing tags). In between these tags web designers can add text, tables, images, etc. the purpose of a web browser is to read HTML documents and compose them into visual or audible web pages.

The browser does not display the HTML tags, but uses the tag to interpret the content of the page. 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 Webpages. 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.

C++

CGI(COMMON GATEWAY INTERFACE) may be a set of standards that outline however data is changed from the online server, passing the online user's request to Associate in Nursing application and to receive data back to the user. When any user requests for a web page, the server sends back the requested page. The Web server typically passes the form information to a small application program that processes the data and may send back a confirmation message. This methodology or convention for passing knowledge back and forth between the server and also the application is termed the common entree interface (CGI) and is an element of the Web's Hypertext Transfer Protocol (HTTP).

SYSTEM DESIGN

Based on the user requirements and detailed analysis, the new system must be designed. Design is a creative process. A good design is the key to effective system because System design is a solution to approach the creation of a new system

INPUT DESIGN

In this system when the data is entered it will check for its validity. Data can be entered with the help o screens. Appropriate messages are provided as at when needed so that the user will not be out of track. In this project, the input design consists of a log in screen, textbox for username and password, source and destination browsing button, a menu list for type of hotel, car, date and time, no of seats, compress/decompress button.

OUTPUT DESIGN

A quality output is one, which meet the requirement of the end user and presents the information clearly. In this system the output produced meets the customer's requirements and is determined by the input of the customer, such output includes whether a seat is available, whether a hotel is available and ticket id etc. this system output is the displayed output on a CRT LCD screen in a predefined format. The primary consideration we took in the design of the system output is the information requirement and objectives of the end users.

DATABASE DESIGN

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected. In designing the database of this system a two level process was followed. In the first step, the user requirements were gathered together and a database which will meet these requirements as clearly as possible. This step is called Information Level Design (Mark Bradley, 2006). In the second step, the user requirement is transferred into a design for the

specific DBMS that will be used to implement the system in question. This step is called Physical Level Design

7.3.1 OBJECT ORIENTED APPROACH

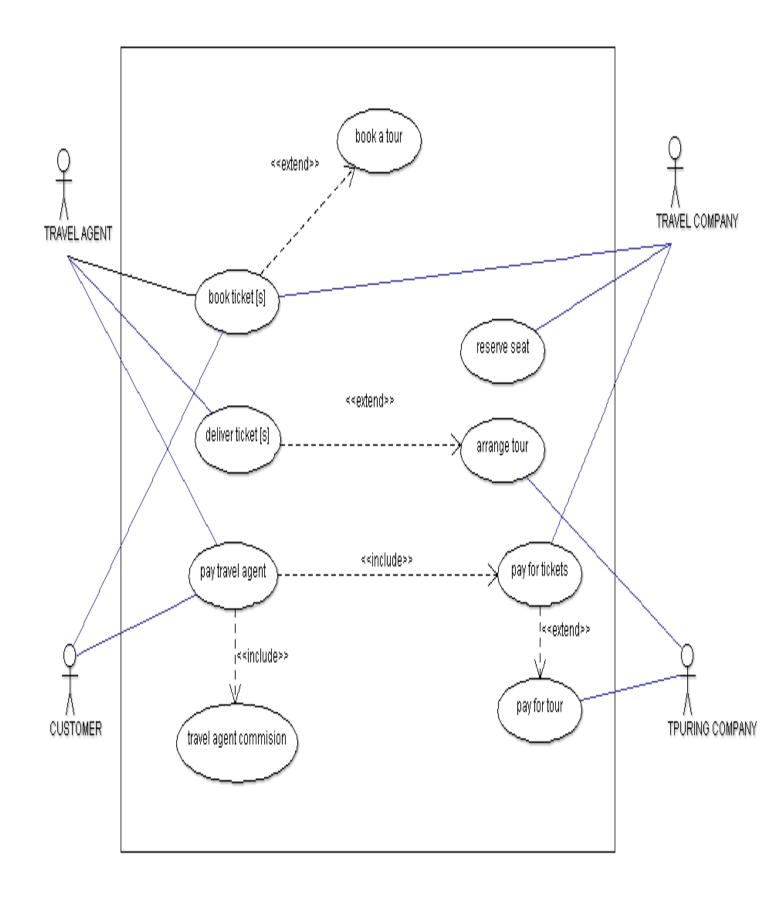
7.3.1.1 USE CASE DIAGRAM

A **use case diagram** at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well.

SCENARIOS

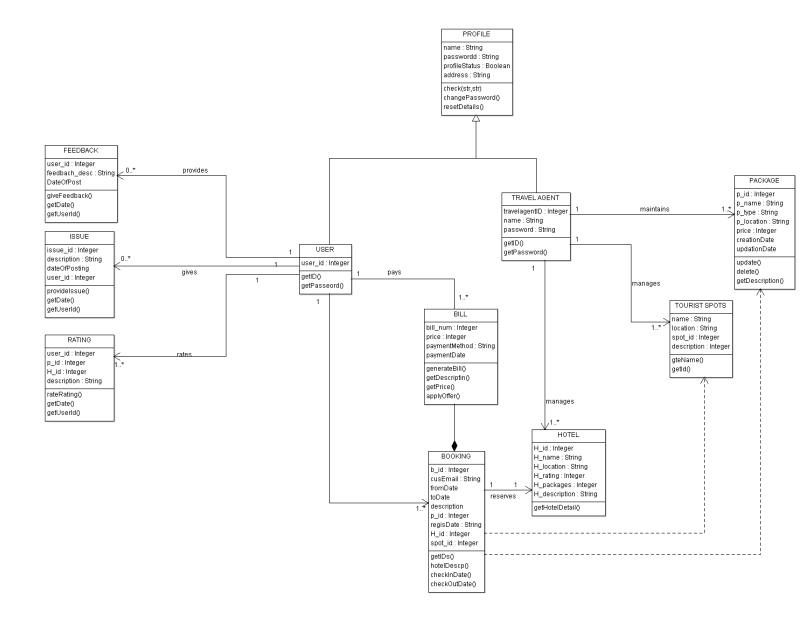
- o Tour agency arranges a tour for the paid users
- o Customer books a ticket for travel
- Customer pays for city tour package
- Travel company allocates seats
- Tour agent organises the tour
- o Travel agency maintains food and accommodation

Customer gets a special discount/package offered by the travel agents



ACTORS	GOALS		
Customer	 Maintain a verified profile Books tickets Pay bills after booking View website, events and provide suggestions and rate the spots 		
Travel agent	 Organises the travel for the users 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 Deals with food and accommodation Spends user amount on their needs Maintain the tour website 		
Travel company	 Manages transport facilities Bus booking and seat allocation Tracking routes for journey 		

7.3.1.2 CLASS DIAGRAM



IDENTIFIED CLASSES:

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

DATA DICTIONARY:

Profile: Created by the person using this software for utilizing the features offered

User: One who uses to book a city tour and can give rating, feedback and issue

Travel agent: The person in charge for arranging the city tour and manages the users and packages

Package: Offered by the travel agents which includes the location of tour, amount, information accommodation and food supplied. Created by the travel agents and can be updated for any offers.

Hotel: For the accommodation of the tourists.

Bill: Generated after booking for the food and accommodation offered by them. Contains information bout the hotel booked, package and city.

Booking: Used to book hotels and select the city for the tour.

Feedback : Given by the user for any further recommendation in the process.

Issue : To notify the system about the problems faced by the users.

Rating: To know about the satisfaction of the users who went through the city tour

Tourist spots: Certain cities which are available for users to select for a city tour

ATTRIBUTES ASSOCIATED WITH EACH CLASS:

• Profile

- o Name
- o Password
- o profileStatus
- o address

• User

o user id

Travel agent

- travelagent_id
- o name
- o password

• Package

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

• Hotel

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

• Bill

- o Bill_num
- o Price
- o paymentMethod
- o paymentDate

• Booking

- o b_id
- o customerEmail
- o fromDate
- o toDate
- o description
- o p_id
- o H_id
- o Spot_id

Feedback

- o user_id
- o feedback_description
- o dateOfPost

• Issue

- o user_id
- o issue_id
- o description
- o dateOfPost

• Rating

- o user_id
- o description
- o H_id
- o p_id

• Tourist spots

- o Name
- o Spot_id
- o location
- o description

METHODS USED IN CLASS MODEL:

• Profile

- o Check(str,str)
- o changePassword()
- o resetDetails()

• User

- o getID()
- o getPassword

Travel agent

- o getID()
- o getPassword

Package

- o Update()
- o Delete()
- o getDescription()

• Hotel

o HotelDetails

• Bill

- o generateBill()
- o getDescroption()
- o getPrice()
- o applyOffer()

Booking

- o getID()
- o hotelDescription()
- o checkInDate()
- o checkOutDate()

Feedback

- o getUserId()
- o giveFeedback()
- o getDate()

Issue

- o getUserId()
- o giveIssue()
- o getDate()

• Rating

- o getUserId()
- o grateRating()
- o getDate()

• Tourist spots

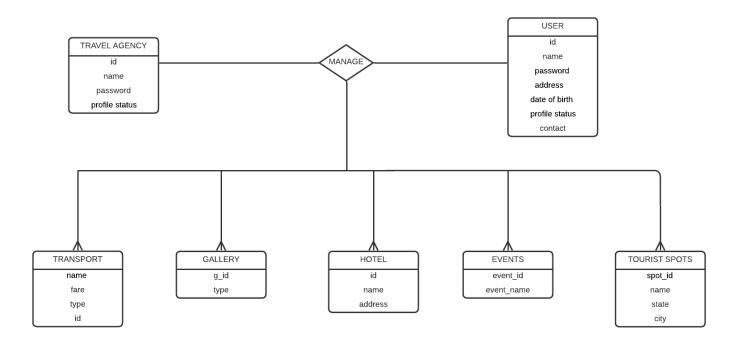
- o getName()
- o getId()

ASSOCIATION AND MULTIPLICITY:

CLASS A	ASSOCIATION	CLASS B	MULTIPLICITY
User	Provide	Feedback	1 to 0*
User	Give	Issue	1 to 0*
User	Rate	Rating	1 to 1*
User	Pays	Bill	1 to 1*
Booking	Reserves	Hotel	1 to 1*
Travel agent	Manage	Hotel	1 to 1*
Travel agent	Maintain	Package	1 to 1*
Travel agent	Manage	Tourist spot	1 to 1*

7.3.2 DATA BASE DESIGN – ER diagram

7.3.2.1 ER DIAGRAM FOR TOUR MANAGEMENT



The above diagram explains the database hierarchy and logical relationship between admin ,user and other entities An travel agent can maintain details of multiple users and maintains records of evemts , tourist spots , transport and hotel

LIST OF ENTITY

Travel agency User Transport Gallery

Tourist spot Hotel Event

LIST OF ATTRIBUTES

Travel agency : id , password , profile_status

User : id, name, pass, address, DoB, status, contact

Transport : name, fare, type, id

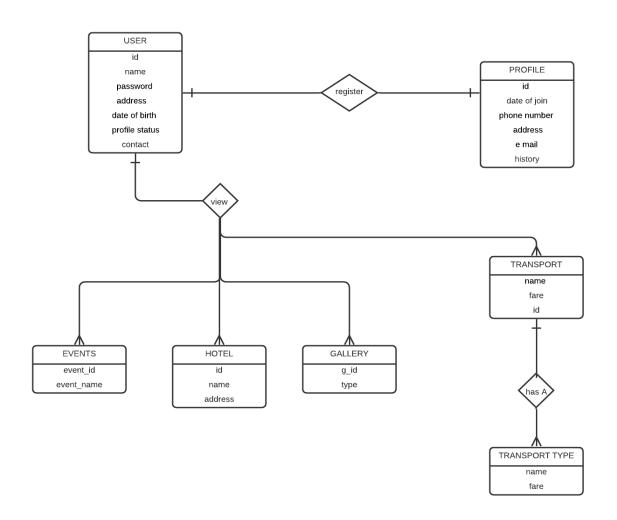
Gallery : g_id , type

Tourist spot : spot_id , name , state , city

Hotel : id, name, address

Event : event_id , event_name

7.3.2.1 ER DIAGRAM FOR USER AND TRANSPORT MANAGEMENT



LIST OF ENTITY

User Transport Gallery Transport type

Profile Hotel Event

LIST OF ATTRIBUTES

User : id, name, pass, address, DoB, status, contact

Profile : id, date of join, ph num, address, email, history

Transport : name, fare, id

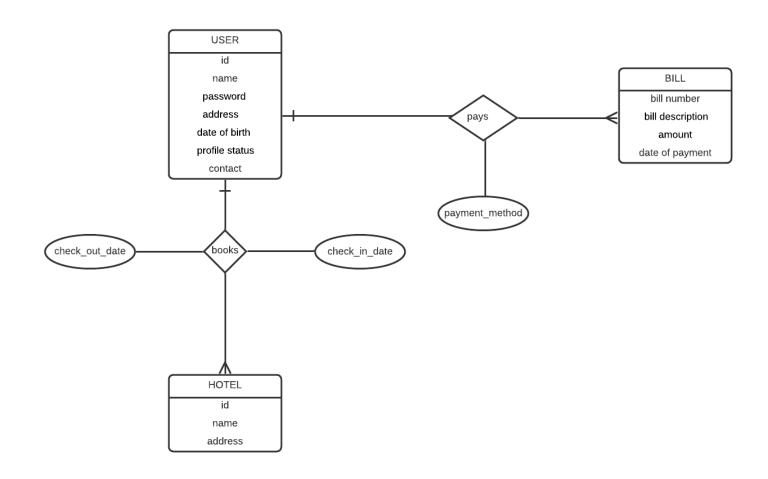
Transport type : name, fare

Gallery : g_id , type

Hotel : id, name, address

Event : event_id , event_name

7.3.2.1 ER DIAGRAM FOR HOTEL MANAGEMENT



LIST OF ENTITY

User Hotel Bill

LIST OF ATTRIBUTES

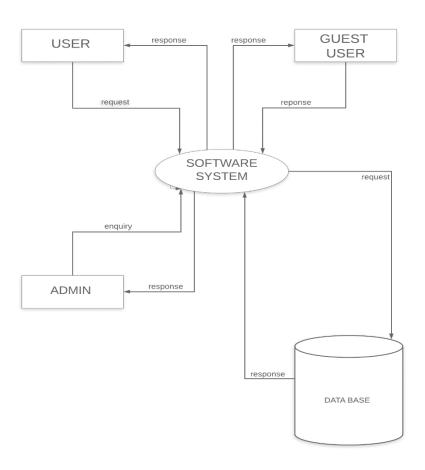
User: id, name, pass, address, DoB, status, contact

Hotel: id, name, address

Bill : bill num, bill description, amount, date of payment

7.3.3 SPIRAL APPROACH - DATA FLOW DIAGRAM

7.3.3.1 CONTEXT LEVEL DF DIAGRAM

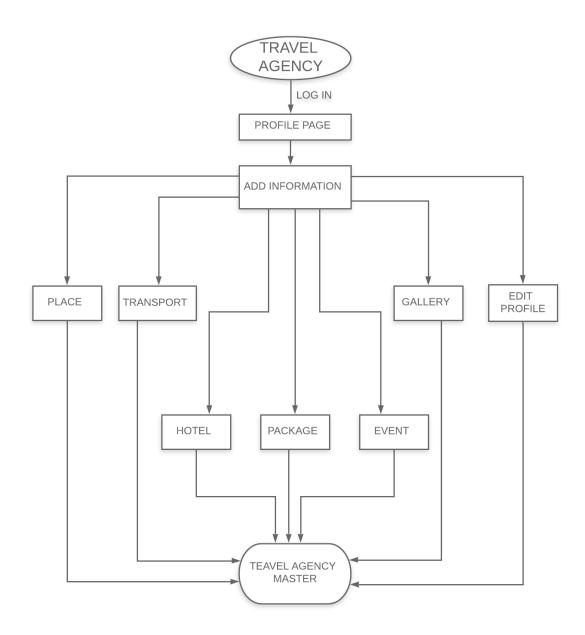


The basic flow of context in the system of our City tour management is depicted in the above diagram. Basically, a user can be of two types:

- 1. Guest users who are new to our community and are eager to travel
- 2. Registered 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 organised way. The details are stored in database which further maintained and handled by database admin.

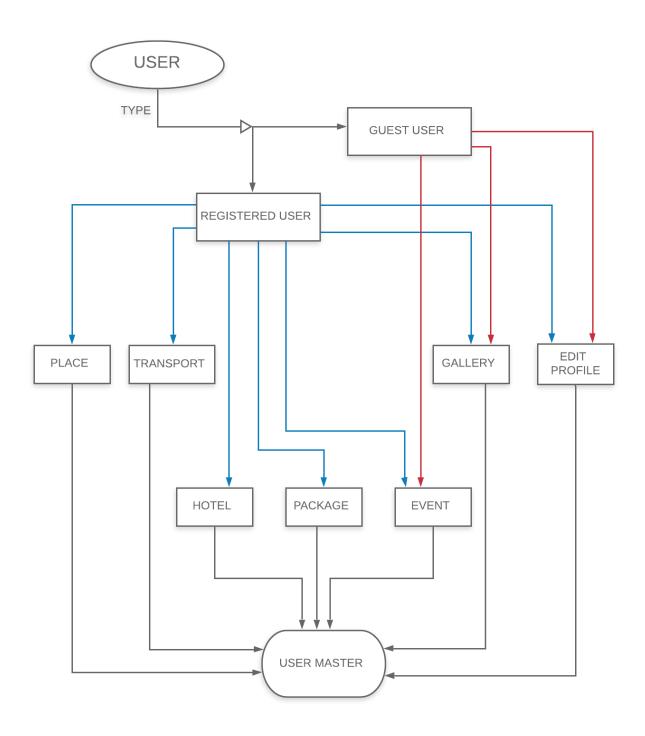
7.3.3.2 DATA FLOW FOR TRAVEL AGENCY LEVEL



Admin activities are depicted in the above DFD

- 1. Admins can log in to their admin account and can add information about Tour details like Location, Transportation, Hotel, Packages and can modify dashboard.
- 2. 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.

7.3.3.3 DATA FLOW FOR CUSTOMER / USER LEVEL



- 1. 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 feedbacks etc.
- 2. Guest users can become registered users by increasing their travel history and booking of packages.

7.4 IMPLEMENTATION AND TESTING

7.4.1 IMPLEMENTATION

7.4.1.1 MINIMUM HARDWARRE REQUIREMENTS

The hardware for the implementation of the proposed system is as follows:

- Intel i5 processor is recommended. Minimum speed is 1042 MHz or Higher
- 2. 1 Gigabyte (GB) or higher of RAM recommended. minimum 512 MB
- 3. 60GB or higher of HOD recommended.
- 4. Internet or a local host.

7.4.1.2 REQUIRED SOFTWARE SPECIFICATIONS

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

7.4.1.3 DESIGN FOR INPUT

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

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

7.4.1.4 STAGES FOR INPUT DESIGN

The main input stages can be listed as below:

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

7.4.1.5 INPUT TYPES

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

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

7.3.4.6 MEDIA REQUIRED FOR INPUT

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
- o 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.

7.3.4.7 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 within 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.

7.4.2 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

This system testing was divided into several distinct operations

TESTING SYSTEM AND COMPONENTS

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.

TESTING OF DATABSE DESIN

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.

PROCESS TESTING

In this phase, the system was started and it ensured that it was working perfectly well by logging in with an invalid account details and access was denied and thereafter, logging in with valid account details and access was granted which means that the system only recognizes registered account details. Also, other features like creating new user and booking ticket, hotel and car were tested.

INTERFACE TESTING

The interface of this system ensures that the prescribed format was used to create new user and that information generated from the database were placed in their various positions intended. This has helped in the input and output design. The interface was properly tested to ensure that it queried the database at any given time and it only fetched information required for any particular page.

DATA FLOW TESTING

This type of testing selects the path of the program according to the location of definition and use of variables. This kind of testing was used only when some local variable were declared. The *definition-use chain* method was used in this type of testing. These were particularly useful in nested statements.

CONDITIONAL TESTING

In this part of the testing each of the conditions were tested to both true and false aspects. And all the resulting paths were tested. So that each path that may be generate on particular condition is traced to uncover any possible errors.

8.0 FUNCTIONAL REQUIREMENTS

The facilities provided by this portal are following

- Home page for the website
- · Holiday Packages.
- Traveling.
 - 1. Railway Travel.
 - 2. Cruise Travel.
 - 3. Flight Travel.
 - 4. Car Travel.
- Currency converter.
- Distance calculator.
- Hotel Reservation.
- List of available hotels

HOME PAGE

The customer logs into the Faith TMS booking engine. At this point, a welcome page is displayed with booking selections. By default, the Welcome Page will also display originating location and a destination location which may not match the needs of the customer. To enable a traveler to use the room booking system they must apply for a user name and password. This can be done directly on the registration page. Once they have the username and password they can log on to the system

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 Voyage Management is capable of providing you all the facilities at a low price. Here customer can mention their budget.

TRAVELLING

Voyage 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.

HOTELS AVILABLE

Voyage 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.

9.0 RAPID PROTOTYPE

9.1 CODE IMPLEMENTATION FOR CLASSES AND SYSTEM

```
o Package (JAVA)
  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()
          {
          }
```

}

o Profile (PHP)

```
<?php
error_reporting(E_ALL);
if (0 > version_compare(PHP_VERSION, '4')) {
  die('This file was generated for PHP 4');
}
class PROFILE
  // --- ATTRIBUTES ---
  var $name = null;
  var $passwordd = null;
  var $profileStatus = null;
  var $address = null;
  // --- OPERATIONS ---
  function check($str, $str)
  function changePassword()
   function resetDetails()
/* end of class PROFILE */
?>
```

```
○ User ( C++ )
```

```
#ifndef USER_h
#define USER_h
#include <vector>
#include "PROFILE.h"
class FEEDBACK;
class ISSUE;
class RATING;
class BOOKING;
class BILL;
class USER: public PROFILE {
public:
  virtual void getID();
  virtual void getPasseord();
public:
  Integer user_id;
public:
  * @element-type FEEDBACK
  std::vector< FEEDBACK* > provides;
  /**
  * @element-type ISSUE
  std::vector< ISSUE* > gives;
  /**
  * @element-type RATING
  std::vector< RATING* > rates;
  /**
  * @element-type BOOKING
  BOOKING *1..*;
  /**
  * @element-type BILL
  std::vector< BILL* > pays;
};
#endif // USER_h
```

o Travel agent (JAVA)

```
#ifndef TRAVEL AGENT_h
#define TRAVEL AGENT_h
#include <vector>
#include "PROFILE.h"
class HOTEL;
class PACKAGE;
class TOURIST SPOTS;
class TRAVEL AGENT : public PROFILE {
public:
  virtual void getID();
  virtual void getPassword();
public:
  Integer travelagentID;
  String name;
  String password;
public:
  /**
  * @element-type HOTEL
  std::vector< HOTEL* > manages;
  /**
  * @element-type PACKAGE
  std::vector< PACKAGE* > maintains;
  * @element-type TOURIST SPOTS
  TOURIST SPOTS *1..*;
};
#endif // TRAVEL AGENT_h
```

o Hotel (JAVA)

```
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()
       }
}
    o Bill (JAVA)
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()
                {
               }
}
    o Booking (JAVA)
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() {
       }
}
    o Feedback ( C++ )
      #ifndef FEEDBACK_h
      #define FEEDBACK_h
      class FEEDBACK {
       public:
         virtual void giveFeedback();
         virtual void getDate();
         virtual void getUserId();
       public:
         Integer user_id;
         String feedbach_desc;
         null DateOfPost;
      };
      #endif // FEEDBACK_h
```

```
○ Issue ( C++ )
#ifndef ISSUE_h
#define ISSUE_h
class ISSUE {
public:
  virtual void provideIssue();
  virtual void getDate();
  virtual void getUserId();
public:
  Integer issue_id;
  String description;
  null dateOfPosting;
  Integer user_id;
};
\#endif \mathbin{//} ISSUE\_h
Rating ( C++ )
       #ifndef RATING_h
       #define RATING_h
       class RATING {
```

```
public:
               virtual void rateRating();
               virtual void getDate();
               virtual void getUserId();
               public:
                       Integer user_id;
                       Integer p_id;
                       Integer H_id;
                       String description;
       };
       #endif // RATING_h
    \circ Tourist spots (JAVA)
public class TOURIST SPOTS
                                    {
       public String name;
       public String location;
       public Integer spot_id;
       public Integer description;
       public void gteName() {
       }
       public void getId() {
```

}

9.2 LIMITATIONS FOUND IN PROTOTYPE

- 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.

9.3 RECOMMENDATION AND IMPROVEMENTS IN PROTOTYPE

- The following system has been recommended for implementation of the web application:
 - o Inteli5 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
- Installation requirement: the room containing the system should have the following facilities.
 - Air conditioners
 - Internet connectivity
 - Lightning arrestor

- 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.
- We would like to suggest possible area for future research in TMS. 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.
- 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.

10. CONCLUSION

In this project, we presented some considerations for the implementation of the online Travel management system as it incorporates both the customers and the administrators. The often complaints by customers about the manual system. Since time is one of the most fundamental resource available to people and it is of the essence that it is respected even when used for pleasure or relaxation. TMS reduces the few minutes or hours in which travelers queue up to buy tickets and gain entrance into the bus for travel.