Global Peak Portal

By

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A report submitted to Quaid-i-Azam University Islamabad
As a partial fulfillment of the requirements for the
Degree of M.Sc in Computer Science

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QUAID-I-AZAM UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE

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FINAL APPROVAL

This is to certify that we have read the project report submitted by Mr. Muhammad Irfan and it is our judgment that this report is of sufficient standard to warrant its acceptance by the Quaid-i-Azam University, Islamabad for the degree of Master of Science in Computer Science.

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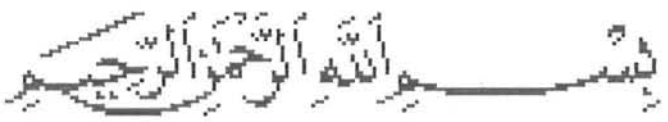

In the name of ALMIGHTY ALLAH,
The most Beneficent, the most
Merciful.

Declaration

I hereby declare that this software, neither as a whole nor as a part thereof has been copied out from any source. It is further declared that I have developed this software entirely on the basis of my personal efforts made under the sincere guidance of our teachers. No portion of the work presented in this report has been submitted in support of any application for any other degree or qualification of this or any other university or institute of learning.

Muhammad Irfan

Dedication

Dedicated to All my teachers and family.

Acknowledgements

All praise to the Almighty Allah, the most Merciful, the most Gracious, without whose help and blessings, I was unable to complete the project.

Thanks to my Parents who helped me during my most difficult times and it is due to their unexplainable care and love that I am at this position today.

Thanks to my project supervisor Asif Qumer and Muhammad Raheel Siddiqui, their sincere efforts helped me to complete my project successfully.

I acknowledge teachers and friends for their help in the project.

Muhammad Irfan

Project in Brief

Project Title:	Global Peak Portal
Objective:	To Develop a dynamic website for tourism company for online tour booking.
Undertaken By:	**Muhammad Irfan**
Supervised By:	**Mr. Asif Qumer** Lecturer, Faculty of Computer Science, Quaid-i-Azam University, Islamabad. **Muhammad Raheel Siddiqui** Computer Programmer, Federal Board of Intermediate and Secondary Education, Islamabad.
Technologies Used:	PHP, MySQL, Apache
System Used:	Pentium® IV
Operating System Used:	Microsoft® Windows® 2000 Professional
Date Started:	1st May, 2004
Date Completed:	3rd August, 2004

ABSTRACT

The objective of this project report is to provide a detailed and thorough understanding of an interactive web-based Tourist Guide. The interactive website keeps comprehensive information of tourist resorts as well as wide range of lodging information of particular areas. The developed system has the ability to perform robust search functions. The search engine of the system enables the end user to extract the desired data from the system, which is displayed appropriately on the user screen. The system provides authenticated users access to the information in the database and enables them to insert, update and delete relevant tourist and lodging information. The system also illustrates some recent services introduced by the chain of hotels, transports which are being offered to the tourist.

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Chapter 1

Domain Study

1.1 What is Global Peak Portal?

In Pakistan, the role played by tourism in country's foreign exchange earning is fairly significant, beside the other benefits like providing employment opportunities and helping the less developed region through the process of income transfer. It is a fast growing segment of the economy and its socio economic significance is increasingly being recognized.

Tourist's arrival in Pakistan has increased only whole during the past couple of years. But no of tourist from Europe, America has almost being the same during these years as the figure have not changed. However, Tourist from south Asia show an increasing trend, but declining trends from Pacific, East Asia and the Middle Eastern countries have also been observed.

Promotion of tourist generating markets like the ones in America, Western Europe and Japan is urgently needed. There should be substantial expansion of tourist accommodation in major cities and development of resort areas and beaches. Expert are of the opinion that Pakistan holds immense tourism potential and has yet only the tip of an iceberg has been exploited.

There are many tourist information centers working under PTDC and they also advertise with the help of brochures and on the internet. But the information provided on the internet is not very comprehensive. So Global Peak Portal as its name gives us idea is a portal on which any tourist can get information regarding tours and can online book the complete tour and even can pay online if he wants.

1.2 Introduction

Tourism is a major export oriented industry, in almost all countries, which have taken it seriously. The economies of many countries and their balance of trade are dependent entirely on tourism. At international level, it is the second largest manpower employment industry in the world. Like other industries, which have undergone major changes in their operations due to modern technology, tourism industry has also been undergoing major changes. While talking of innovations, the western countries have taken keen interest in the promotion of tourism and have done practically every thing possible which can attract the tourists. From guided tours to hotel booking a cheap air

ticket, nothing has been left unattended which can bring in convenience to the tourists. Thus the development of tourism in a country leads to its economies development.

Being a source of foreign exchange earning and employment, tourism has frequently been a source of amenities for the hotel population of any tourist resort. In comparisons to other forms of economic development, an improvement in living standards may be generated through tourist's traffic relatively quickly.

Tourism has been granted the status of an industry in Pakistan and all the concessions and incentives given in the industrial field would now apply to this sector as well.

In Pakistan, the role played by tourism in country's foreign exchange earning is fairly significant, beside the other benefits like providing employment opportunities and helping the less developed region through the process of income transfer. It is a fast growing segment of the economy and its socio economic significance is increasingly being recognized.

Pakistan has been bestowed with the wealth of tourist attraction and many idyllic spots.

It is situated on the shores of Arabian sea, sprawling along the Indus valley upward to the Himalayan mountains. There are towering mountains, beautiful valleys, historical and archeological sites, and cultural heritage, which can attract tourist through promotional efforts and development of infrastructure facilities.

Tourist's arrival in Pakistan has increased only whole during the past couple of years. But no of tourist from Europe, America has almost being the same during these years as the figure have not changed. However, Tourist from south Asia show an increasing trend, but declining trends from Pacific, East Asia and the Middle Eastern countries have also been observed.

In order to popularized tourism and to provide recreational facilities to both the domestic and foreign tourist, the Pakistan tourism development corporation (PTDC) has created a basic network of small and medium size hotel, in various parts of the country, mainly in the northern areas.

Promotion of tourist generating markets like the ones in America, Western Europe and Japan is urgently needed. There should be substantial expansion of tourist

accommodation in major cities and development of resort areas and beaches. Expert are of the opinion that Pakistan holds immense tourism potential and has yet only the tip of an iceberg has been exploited.

There are many tourist information centers working under PTDC and they also advertise with the help of brochures and on the internet. But the information provided on the internet is not very comprehensive.

Now a day the world is becoming a global village because of the internet and any information placed on the internet can be viewed by a lot of people. If comprehensive information regarding the beautiful places of Pakistan is available on the internet, it can help in promoting tourist industry to a large extent.

Chapter 2

Overview of the System

2 Overview of the system

2.1 Introduction to Organization

The vision tech services deals and communicates with tourist from South Asia countries through phone and manages their records manually.

The vision tech handles hotel booking, transport, tracking, extra expenses and response to a dynamic demand. The hotel booking minimally includes the division of rooms, predictive manus, special reception arrangements; instructions and flexible demand recognition. Adoptive hotel replacements in case of emergency or stipulate updates of hotel rates as per dynamic bill generation. They have to provide minute-to-minute customer entry and exit information.

They have schedule for their tourist that provides all types of expenses, including transport, booking, travel, guide, luggage porter, complete financial package detail and flexible tour replacements etc providing scope for customer for miraculous journey.

The tour operator have to provide two-dimensional market & sales analysis, the information based on prospect as well as company's contract and transactions for future creditable planning. The tour operator has to provide billing, production, schedule, parameterized reports.

2.2 Problem definition

The following problems are existing in existing system:

1. Indirect communication the management was ineffective.
2. Their customers have to face many problems which were inconvenient both for organization and for customers.
3. They have to manage a lots of redundant records manually that causing wastage of resources and money.
4. They don't keep safety records of customers.

5. There are lots of problems in searching the records, updating, and deletion of a particular customer.
6. There is no security in that manual system which can cause a great loss for them.

2.3 Scope

There are three major scenarios to discuss the scope of Global peak portal. Those are discussed below.

2.3.1 Context

Global peak portal will be used in an environment in which the dominating and frequently used operating system is Microsoft Windows 2000. Global peak portal must be built fit into a larger system or business context. So the constraint imposed as a result of context on Global peak portal is that, Global peak portal must be compatible with Microsoft Windows 2000 and other operating systems,. Due to this reason we are developing a Global peak portal which will be used on both type of servers i.e. Linux/Unix, Windows.

2.3.2 Input

Input of the system will be:

- Input will be dynamic depending on the things which the tourist will select how ever it will start with the collection of tourist information.

2.3.3 Output

Output of the system will consist of the

- Booking Recite
- Confirmation email

2.3.4 Functions and Performance

Functions are those tasks, which will be performed by our system in order to transform the input data to output. General functions that can be performed with our

- Report Generation
- Hotel Booking
- Transport Booking
- Places Booking
- Data Entry
- Authentication System
- Session maintenance
- Cookie handeling
- Confirmation Mail

2.4 Objectives

The objectives are those functionalities, which are required from the system or in other words those features in the system, which are required to fulfill the problem definition. Business opportunities that can arise from this project include new deals and contact with the customer. In order to fulfill requirements of the Vision tech services we have the following objectives to achieve.

1. A SQL server based true client-server application.
2. Global tourism schedule for distributed level data entry
3. Web-portal for maintain all necessary required information for accessing it from any place around the globe.
4. Special package generation with minimum user level entry (system generated packages)
5. Two-dimensional market analysis, the information based on prospect as well as company's contract and transactions will provide future creditable planning.

6. Maintenance the generated billing and production reports.
7. System must support, schedule reports, parameterized reports.

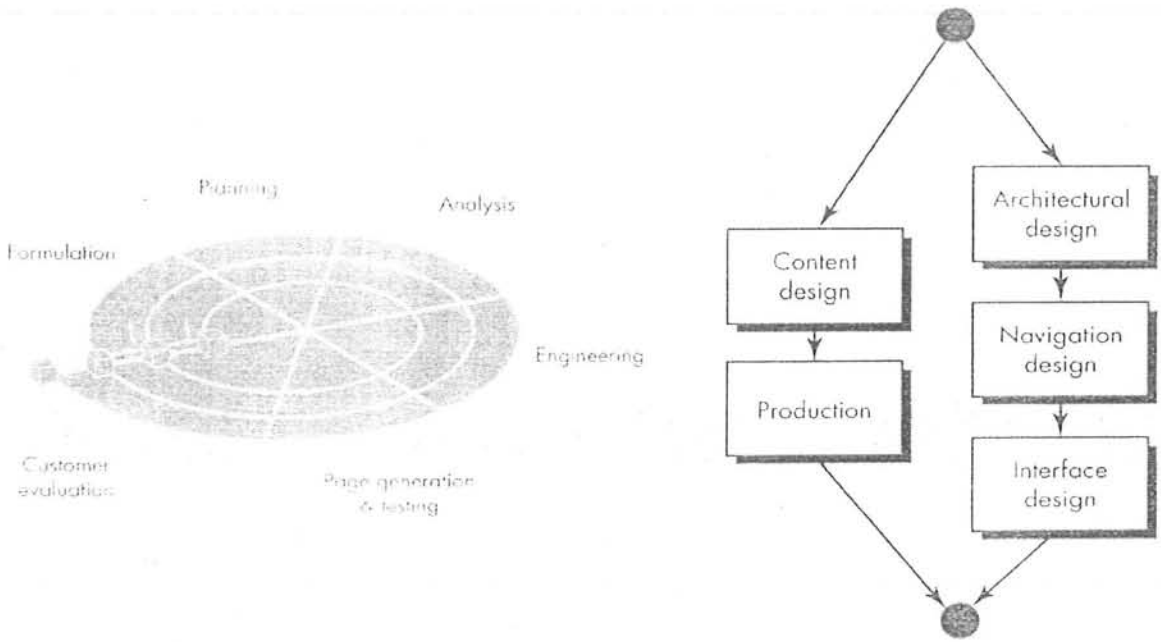
8. The system is Centralized but distributed in nature.

9. Multi-level security & control mechanism.

10. Master control based activity, administrator will maintain and support bi-directional activities/transactions.

2.5 Process Model

The characteristics of Web-based systems and applications have a profound influence on the WebE process. Immediacy and continuous evolution dictate an iterative/incremental process model that produces WebApp releases in rapid fire sequence.



WebE process Model

Because WebApps are often content driven with an emphasis on aesthetics, it is likely that parallel development activities will be scheduled within the WebE process and involve a team of both technical and non technical people. Hence it is required to have a separate process model for Webapp development[SOM00]. There are several process models that can be adopted for application development but for the reasons described above I have chosen WebE process model.

Overview of WebE [SOM00]

- **Formulation:** Activity that identifies the goal and objectives of Webapp.
- **Planning:** Activity that estimates overall project cost and evaluate risks associated with the development effort.
- **Analysis:** establishes technical requirements for the WebApp and identifies the content items that can be incorporated.
- **Engineering:** activity incorporate two parallel tasks i.e. content design and production. The intent of these tasks is to design, produce and/or acquire all text graphics are identified. At the same time design tasks are conducted.
- **Page Generation and Testing:** Page generation is a construction activity that makes use of heavy tools for WebApp creation. Testing exercises WebApp navigation, attempts to uncover errors in applets, Scripts and forms and ensure that WebApp operate correctly.
- **Customer evaluation:** each increment produced is reviewed by the customer and the suggested changes are incorporated.

2.6 Recourses Identification

There is need of resources for doing any kind of job. Following resources are required to accomplish the development of this system

2.6.1 Hardware resources

Hardware resources required for the development are as follow.

Resource Name	Minimal	Recommended	Description
Processor	350 MHz	850 MHz	To run software required for development
RAM*	128 MB	256 MB	To run software required for development
Hard Drive	10GB	30GB	To run software required for development and store data.
Printer	Dot Matrix	HP DeskJet 600	To get hard copy of documentation for end user.
Keyboard	Standard	Standard	To give input to the computer
Mouse	Standard	Standard	To give input to the computer
Color Monitor	With resolution 800x600	With resolution 1024x768	To view out put.

2.6.2 Software resources

Software resources required for the development are as follow.

Resource Name	Minimal	Recommended	Description
Operating System	MS Windows 98	MS Windows 2000 professional	Application Platform
Development Tool	PHP, MySQL, Apache	PHP, MySQL, Apache	To develop the system.
Documentation Tool	MS Office 2000	MS Office XP	To prepare the documentation.
Management Tool	MS Project 98	MS Project 2000	For Project Management
CASE Tool	Microsoft Visio 2000	Microsoft Visio 2002	For analysis & Design

2.6.3 Human recourses

Muhammad Irfan.

2.7 Feasibility Study

I study the feasibility of the system in following four ways:

(1) Technical Feasibility

(2) Economical Feasibility

(3) Operational Feasibility

(4) Legal Feasibility

2.7.1 Technical feasibility

The Global peak portal will be technically feasible because of following

1. Using PHP, MySQL and apache, which is efficient and reliable tool, we will develop the system.
2. Easy to use syntax of PHP i.e. close to C++

By proposed solution it is to enhance it in future.

2.7.2 Economic feasibility

Economic Feasibility is directly related to cost of software. Cost of software depends on resources that are used. The system will be economically feasible because of following

a. As the system is developed for academic purposes in order to complete partial fulfillment of M.Sc degree so the evaluation versions of software can be used and there is no need to spend extra money to purchase software resources

2.7.3 Operational feasibility

The system will be operationally feasible because of following

1. As I have studied the system very well and by using the technique of brainstorming so the end product will meet all the requirements of the user. So the Global peak portal system will be easy to use.

2.7.4 Legal feasibility

The system will be legally feasible because Legal feasibility is related with copyrights laws of software's that are used in development. The development is involved with evaluation versions of software's for academic purposes not for commercial purposes.

2.8 Proposed system

Global peak portal is about reengineering as well as conversion of orthodox procedures to innovative and novel. The aim is to streamline sales and tourism related supply chain and achieving value addition, in the sales, distribution and planning activities.

The System will be SQL server based true client-server application, which will be robust and scalable system that will allow multi-user access to physical database and web-portal. The tour operators will remotely handle hotel booking, transport, tracking, extra expenses and dynamic demand allocation. The hotel booking minimally includes the division of rooms, predictive manus, special reception arrangements; instructions and flexible demand recognition. Adoptive hotel replacements incase of emergency or stipulate updates of hotel rates as per dynamic bill generation. The system must provide minute-to-minute customer entry and exit information.

Global tourism schedule will provide distributed level data entry with all types of expenses, including transport, booking, travel, guide, luggage porter etc providing scope

for customer for miraculous journey. The system will provide complete financial package detail and flexible tour replacements (computer-based)

Web-portal will maintain all necessary required information for accessing it from any place around the globe. The information will only be uploaded at single place as it is centralized in nature. Centralize database must provide the flexibility to be updated both by web-portal and company's physical database.

The database will provide distributed functionality but centralized in nature. The system will be loosely coupled and changes must not affect other connecting modules. More than one user level access will be provided to ensure credible and secure transactions.

The system will further provide tour selection. Multi-purpose tours selection availability must ensure proper discount packages and guides. Self-generated messages in case of acceptance, provided with dynamic alerts with flexible amending activities. Predicted menus, dynamic updates and future reservation plus 15 days pre-confirmation alerts and reports. Special package generation with minimum user level entry (system generated packages)

The system will provide two-dimensional market analysis, the information based on prospect as well as company's contract and transactions will provide future creditable planning.

The system will maintain automatically generated billing and production reports.

The system will further support followings:

i. Schedule reports
ii. Parameterized reports

These reports will support all future plans and strategies.

The system will provide:

i. The system will be centralized but distributed in nature
ii. Multi-level security & control mechanism
iii. Master control based activity; administrator will maintain and support bi-directional activities/transactions.

Chapter 3

Requirement Engineering

3.1 Requirement Engineering

The hardest single part of building a software system is deciding what to build. No other part of the work so cripples the resulting system if done wrong.

It is the set of activities that leads to the production of requirements definitions and specifications of system.

System requirement include the following sub headings

- Requirements Definitions & Specification
    - Functional Requirements
    - Non Functional Requirements

3.1.1 Requirement Definition & Specification

Requirements definitions of Global Peak Portal are, what services the system is expected to provide and the constraints under which it must operate. Some of them are functional and some are non-functional which are defined separately in the subsequent sections.

3.1.1.1 Functional Requirements

- **Authentication**

The authentication system will be responsible for restricting the unauthorized use of the system. And will check the username and password and allow only the authorized person to book/ change the booking which they have previously done/ confirm their tour. The sessions will be maintained to secure the information of the user. And the cookies will be used to store the information of the user on the client system so that it will not overburden the server and will only save the data to database when the user completely select the tour.

- **Report Generation**

There will be two types of reports. The first one will be the parameterized report and other will be schedule report. Parameterized report will be generate by the operator/ administrator and the administrator will select the criteria and the report will be generated

but in schedule report the report will be based on date/ time the report will be generated of the current month, week. But user has to press the button to see the schedule report that will display the number of customers, tours and other things related to it.

- **Confirmations mail**

The confirmation mail system will assure that the customer will come or not. if the confirmation mail will not arrive before the fifteen day then the whole trip will be automatically cancelled.

- **Customer Information**

The customer information take in order to make our trip more comfortable and manageable. According to his information we can easily maintain our database as well as our plan according to his wishes. Customer information include the customer name, Address, country, phone, age, credit card etc.

- **Data Base Information**

There are two types of database information. Old database information and new databases information. The old database information are used to search the particular customer that is visited in the past. We can easily tell his name ,address, place, country and any information related to him. The new database will maintain about the newly visited customer which has come to here or the customer which will come to here.

- **Other Expenses**

The other expenses means the expenditure that is not included in the tour but customer will demand according to his wish. The other expenses sheet will be maintained through out the tour. For example special reception arrangements; instructions and flexible demand recognition.

- **Hotel Information**

In Discussion with the related personals, a number of things and questions were asked. The things which are of much important and relevance to our system, especially

regarding the *Hotel Information,* and will be part of the entities of the system / database are:

- Without Meal
- With Meal

These are discussed below in detail.

- **Without Meal**

The Hotel will offer the customer or client different packages. These packages will differ both qualitatively and quantitatively and play are responsible for managing the overall tour cost. The First package offered to the customers is *"Hotels without Meals"*. This package will have the hotel provide the customer with the room and accommodation only. All other travel requirements, including food, will not be the hotel's accountability. However, if the customer makes a request to the hotel for the provision of food during his stay, his request will be addressed as to desire. The customer will have to pay the additional cost, included with the other expenses before he leaves the country.

- **With Meal**

This package offers the customer ***"Hotels with Meals"***. In this case it will be the hotel's responsibility to manage the customer's accommodation along with the food, during his stay at the hotel. He will however, have to pay the additional expenses along with the other charges, before leaving the country. These other charges include:

- Name
- Fair
- Type of Room
- Place
- Type

The detail for these is as follows:

- **Name**

The customer / client will be given a list of hotels. This list will have the hotels arranged in order of location i.e. under the same cities. The list will also hold the rankings for these hotels as one star, two star, three star, etc. The client will be able to select only

one hotel for a single location, but more than one selection for the whole tour will be allowed. It will be made explicitly clear that the customer has no doubts or confusions regarding the **"Hotel Name"** to minimize the chances of complaints due to misconceptions.

- **Fair**

The tour fair will depend mainly on the tourist's / costumer's selection of package. The fair for the road and the fair for the air also suffer hard differences. Travel by Air is much expensive compared to a trip by road. These decisions will be made purely and completely by the tourist. Incase of travel by Air another important factor is the selection of a return ticket or a one way ticket.

Incase of a trip by road, a further selection of travel by bus, van, coaster, car, jeep etc also has to be made by the customer, the rates for each being different. This selection also depends on the distance to be traveled, and location for the trip. Such as, in the northern areas only jeeps or buses are available. Out of these too, jeeps are preferred for a trip, as it's not safe to travel by bus. Jeeps again, have different types. Some provide accommodation for five people while others are eight seated and some even can accommodate ten or more people. It thus all depends on the customer. The charges for the jeep are also paid by the customer while the booking is made. A guide, well aware of the place to be visited, can also be provided along with each jeep, with additional expenses. Other fairs include costs of the things demanded by the customer during the journey such as food, tracking luggage etc. These costs are not included as part of the expenses for the trip. All this expenditure is added in the extra fair sheet which will be maintained during the journey.

- **Type of Room**

The type of room depends on the number of tourists in a particular group. On the basis of the number of people to be accommodated, the decisions for the room type are made. The room consists of:

- Single Bed

- Double Bed
- Triple Bed

A single bed room further allows selection of some facilities such as with or without an attached bath, a T.V etc. The provision of these facilities also depends on the ranking of the hotel, as was previously selected by the customer. In a single star hotel, only few facilities will be provided by the hotel management team. Incase of a two star, three star, four star or a five star hotel all facilities will be accessible. These facilities mean the provision of some extra care of comfort by the hotel. These include a swimming pool, salad bar, restaurant, gym etc. Some people prefer living alone in a single room. For them the selection for the room is made according to the customer wish. Similarly there are people who prefer to stay in rooms with the windows open to an ocean view or some grassy green location. Some rooms provide the facilities of A.C and heaters while others don't provide these comforts. The customer selects the room with or without all or some of these facilities. If the customer wishes to change the room after some days, his desire is addressed as he requests.

- **Place**

Places are the most important factor in our global web portals because according to the places the customers are attracted. Information regarding the places causes a lot of confusion. The places are selected by the customer according to his wish. Among the major factors effecting the selection of location one is the weather of that certain place. If the customer selects a place that is suffering bad weather conditions, suggestions to consider the decision will be made. If during the journey some major problem occurs such as a massive road block leaving no other option but to turn back, then the plan will be changes with the customers consent. Also, in situations such as the customer opts for Murree and on reaching doesn't like it, then he will be taken to some other better location.

- **Type**

The type will be chosen by the client / customer from a list. This list will have the hotels arranged in order of location i.e. under the same cities. The list will also hold the

rankings for these hotels as one star, two star, three star, etc. The client will be able to select only one hotel for a single location, but more than one selection for the whole tour will be allowed. It will be made explicitly clear that the customer has no doubts or confusions regarding the **"Hotel Name"** to minimize the chances of complaints due to misconceptions.

3.1.1.2 Non Functional Requirements

- **External Interface Requirements**

operator/user interface characteristics from the human factors point of view

The interface needs to be extremely simple but eye catching. This product is intended to provide users with unlimited and thrilling entertainment and to give them on hand communication facility without any problems. As such, the interface needs to be simple and user friendly. Any user should immediately know how to get their desired response from the tours without any confusion.

Characteristics required of the interface between the software product and each of the hardware components

The software needs to run on all kinds of hardware available. Since PHP and MySQL will be used to build this product, the hardware/software interface will not be a problem even with multiple types of hardware to worry about.

Interfaces with other software components including other systems, utility software, databases, and operating systems

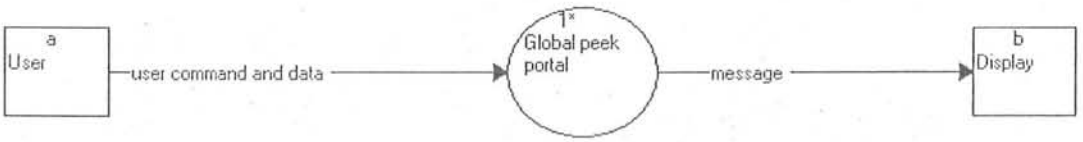
The product will need to be accessed through the web. The users will only be viewing the website through Netscape or Microsoft Internet Explorer or any type of Internet browsers on either of the operating systems. Sound will be non-essential (and possibly detrimental) to the tour's operation. As such sound compatibility will not be emphasized unless time permits.

Chapter 4

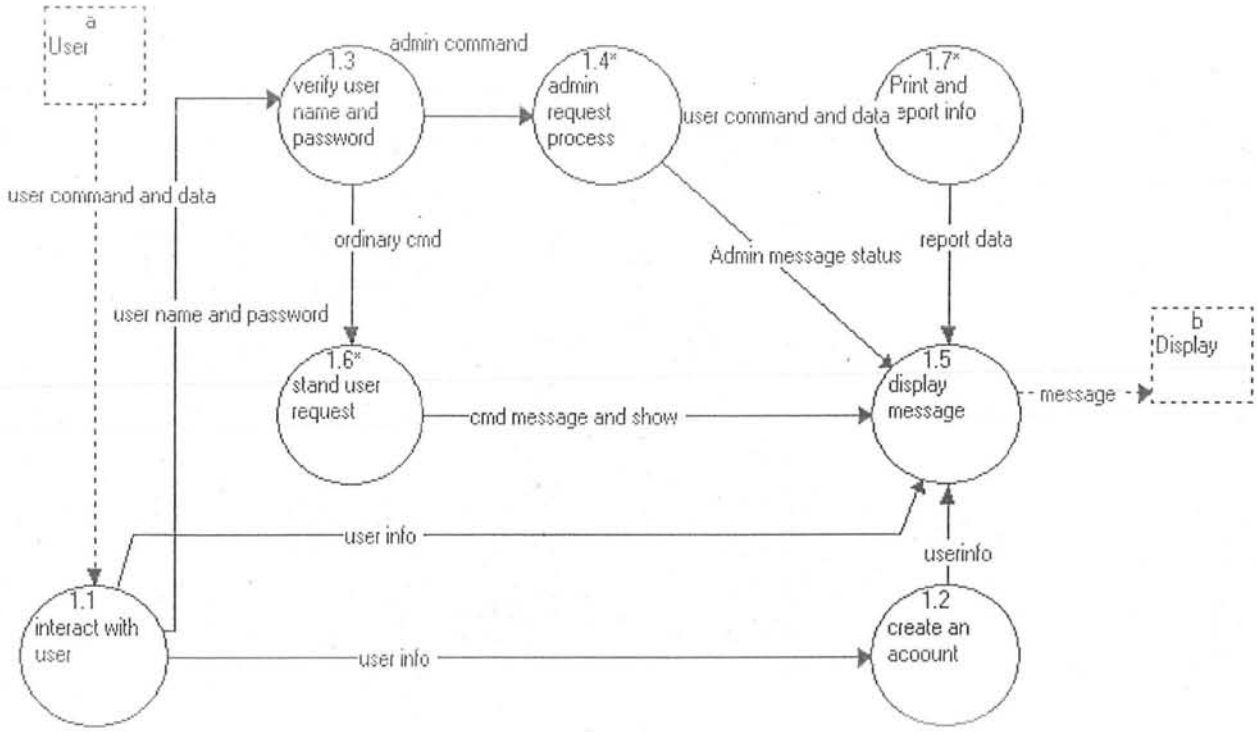
Analysis

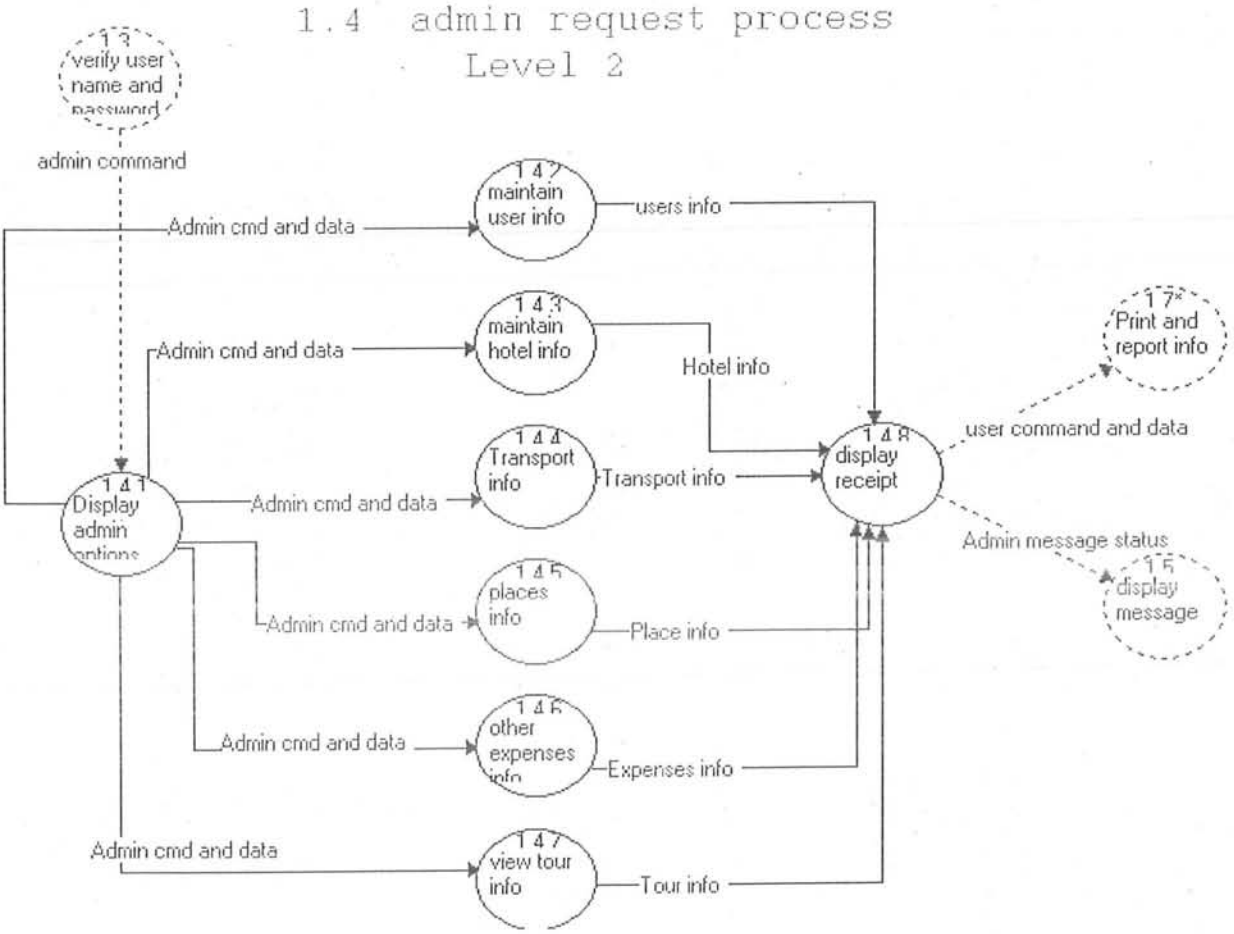
4.1 Data Flow Diagram

0 level DFD



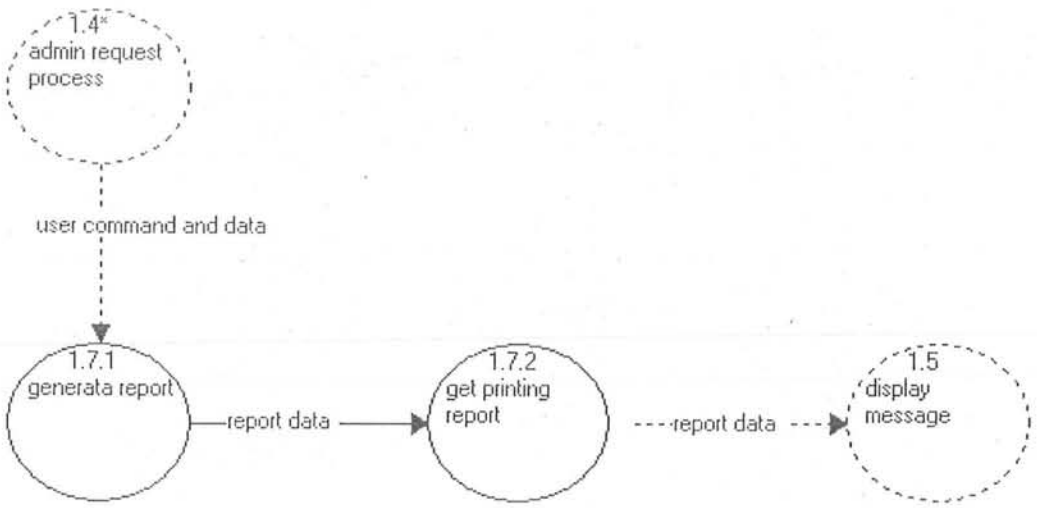
1 Global peek portal
Level 1 DFD




1.4 admin request process
Level 2
1.3
verify user name and password
admin command
1.4.2
maintain user info
users info
Admin cmd and data
1.4.3
maintain hotel info
Hotel info
Admin cmd and data
1.7
Print and report info
1.4.4
Transport info
Transport info
1.4.8
display receipt
user command and data
1.4.1
Display admin options
Admin cmd and data
Admin message status
1.5
display message
1.4.5
places info
Admin cmd and data
Place info
1.4.6
other expenses info
Admin cmd and data
Expenses info
Admin cmd and data
1.4.7
view tour info
Tour info

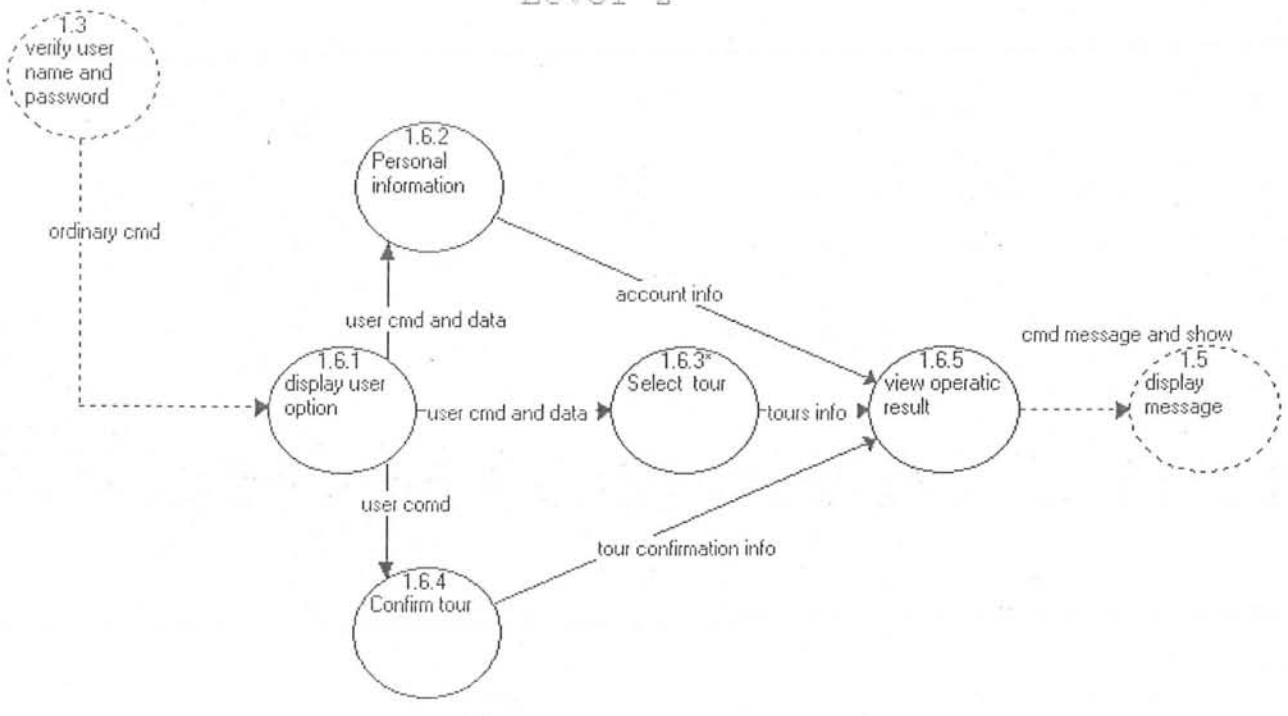
1.7 Print and report info

Level 2

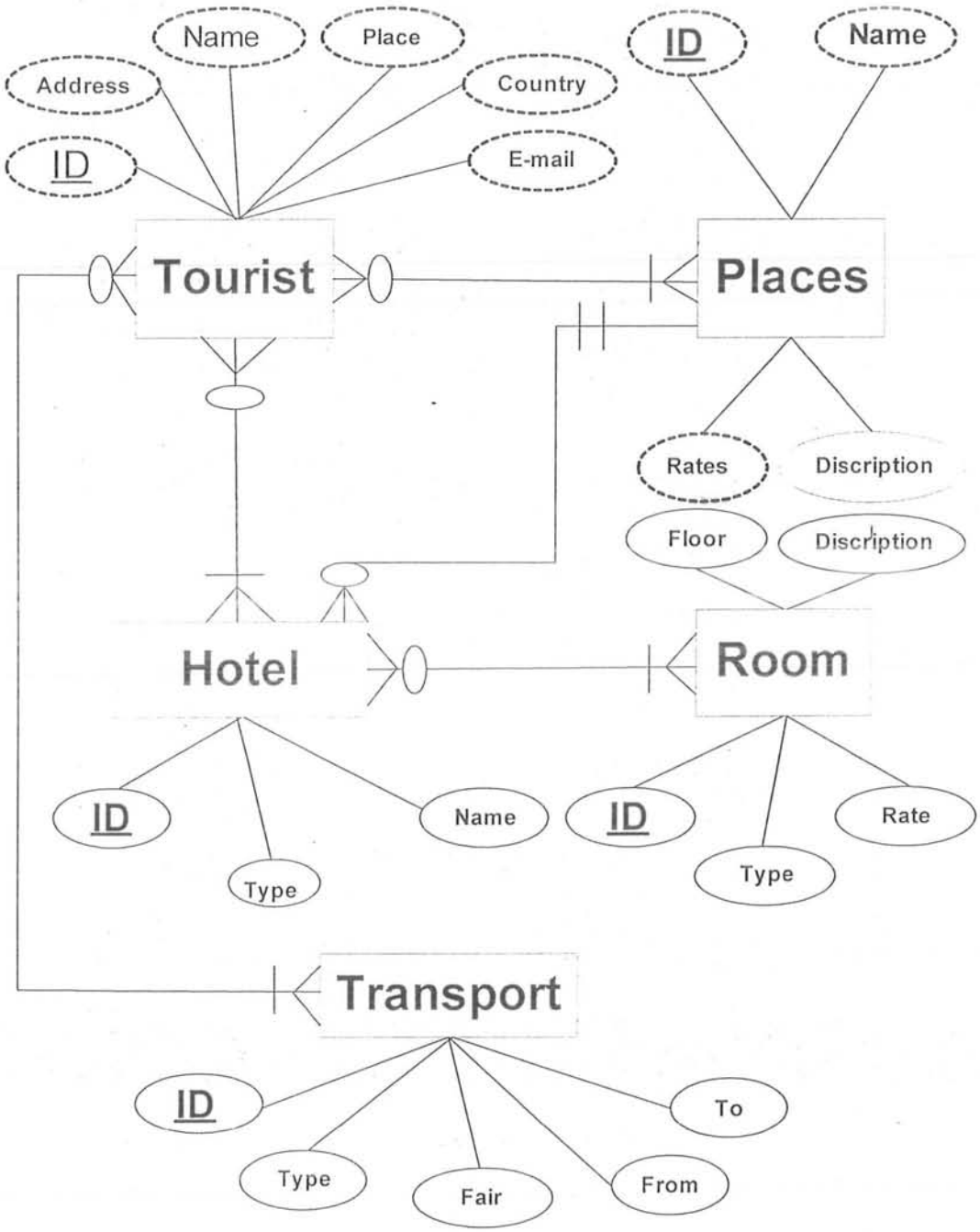


1.6 stand user request

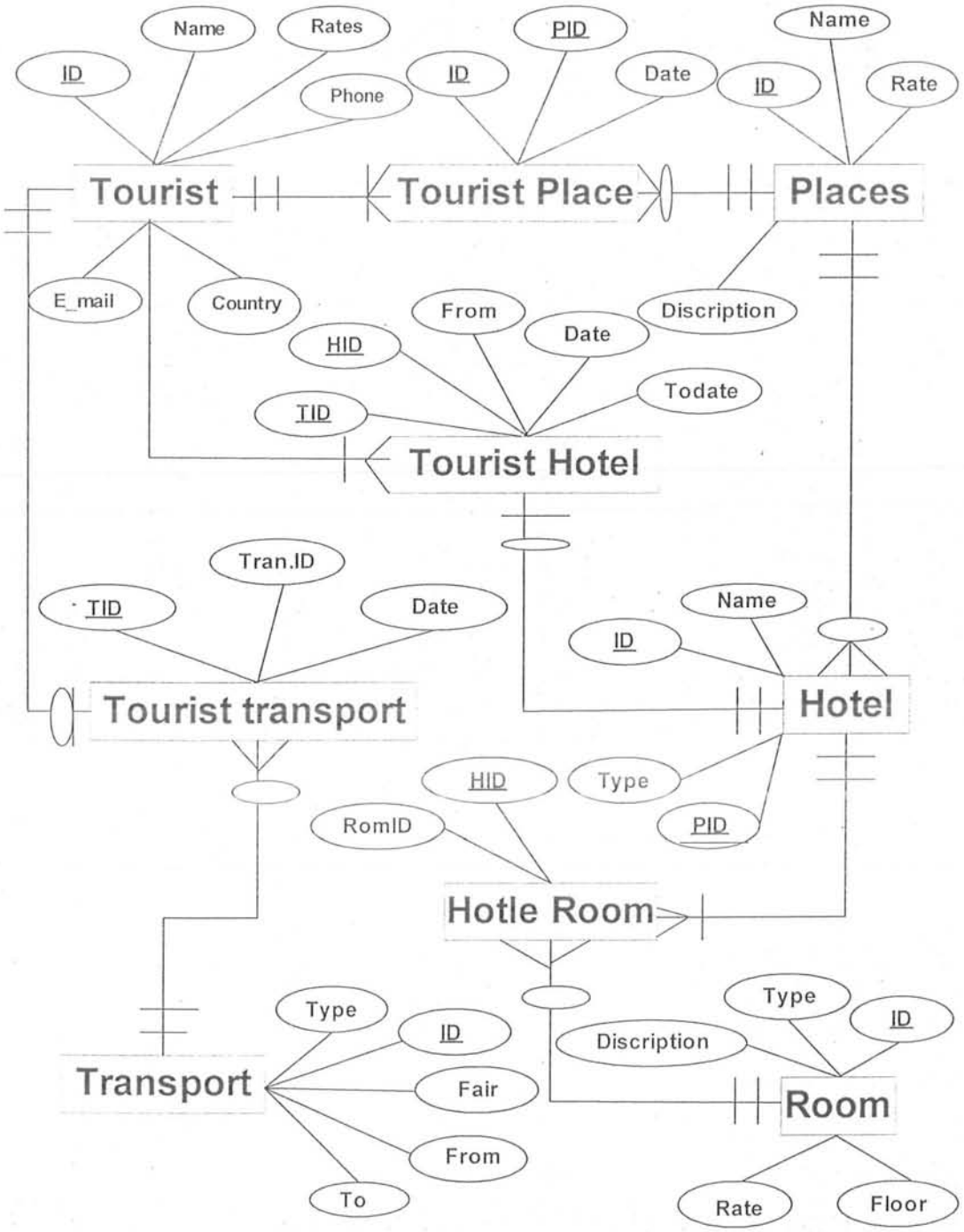
Level 2



4.2 Entity Relationship Diagram



ERD



Normalized ERD

Chapter 5

Design

from Data Flow Diagram of the Analysis model. Interface Design is also created using the infromation from data flow diagram. Procedural Design uses the information from CSPEC, PSPEC and state-transition diagram of the Analysis model.

5.2 Design Types

There are four types of Designs.

- Data Design
- Interface Design
- Architectural Design
- Procedural Design

5.2.1 Data Design

The Data Design transform the information domain model created during analysis into the data structures that will be required to implement the software. The data objects and relationships defined in the entity-relationship diagram and the detailed data content depicted in the data dictionary provide the basis for the data design.

Data Design is the first of four design activities that are conducted during software engineering. The primary activity during data design is to select logical representation of data objects identified during the requirement definition and specification phase. The selection process may involve algorithmic analysis of alternative structures in order to determine the most efficient design or may simply involve the use of a set module that provide the desired operations upon some representation of an object.

Figure 3.2 Tourist Information Object

Figure 3.3 Hotel Information Object

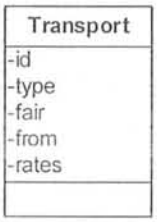


Figure 3.4 Transport Information Object

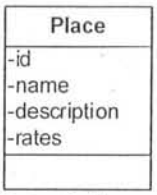


Figure 3.5 Place Information Object

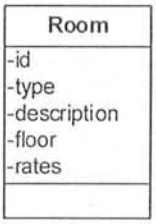


Figure 3.6 Room Information Object

Figure 3.1 to 3.6 shows the data Objects which also serves as a base for database design (*see Appendix 'A' for normalized database design*) along with its attributes. This information is stored in a database.

5.2.2 Interface Design

The interface design describes how the software communicates within itself, to systems that interoperate with it, and with humans who use it. An interface implies a flow of information (e.g. data and/or control). Therefore, the data and control flow diagrams provide the information required for interface design. The interface Design can be seen in Appendix 'B'. The entire diagrams related to the interface are shown there.

5.2.3 Architectural Design

The Architectural Design defines the relationship among major structural elements of the program. This design representation—the modular framework of a computer program—can be derived from the analysis model(s) and the interaction of subsystem defined within the analysis model.

The Program Structure of the software is show in Figure 3.11, 3.12, 3.13, 3.14, 3.15 of DFD level 1, 2 and 3.

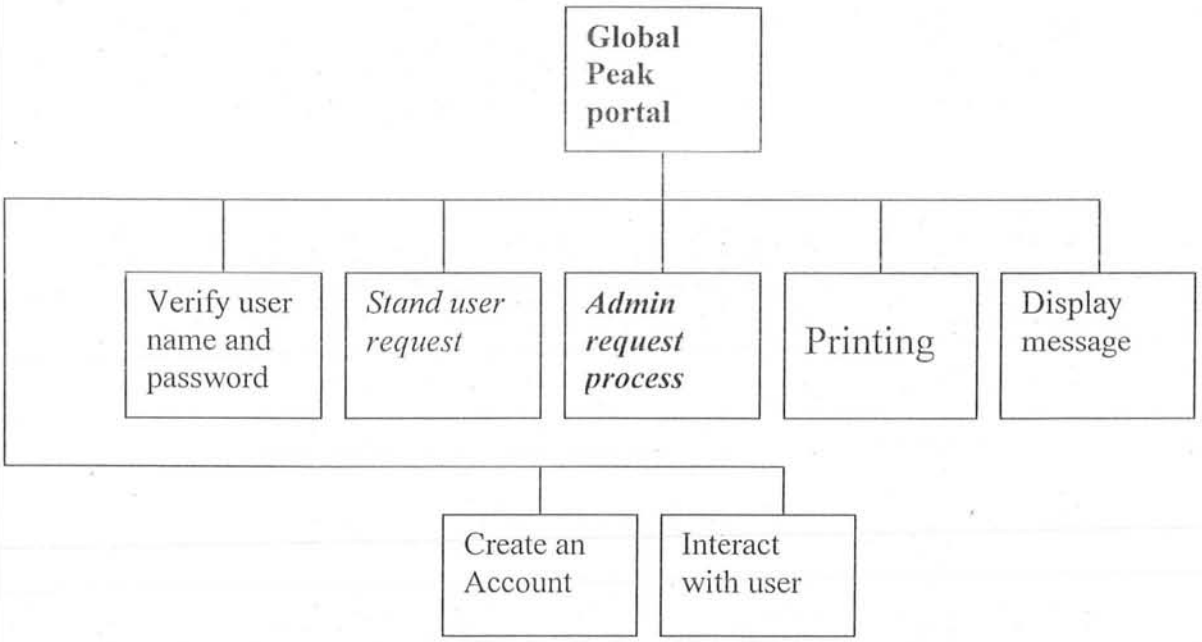


Figure 3.11 Program structure.

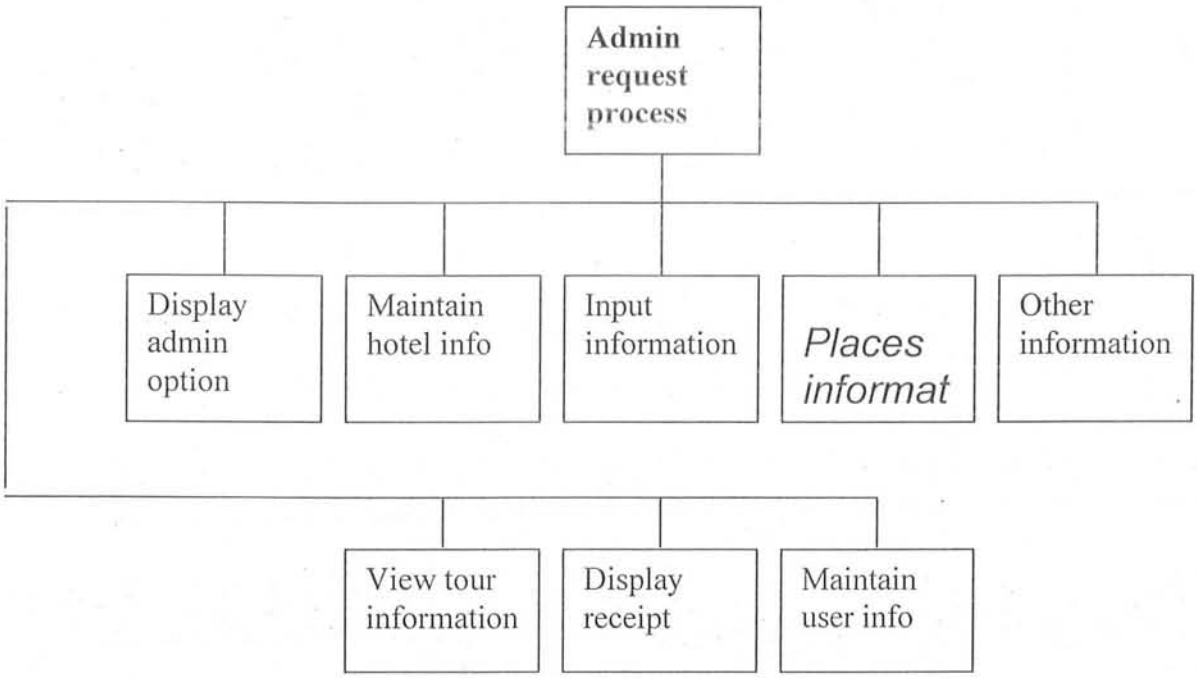


Figure 3.12 Program structure.

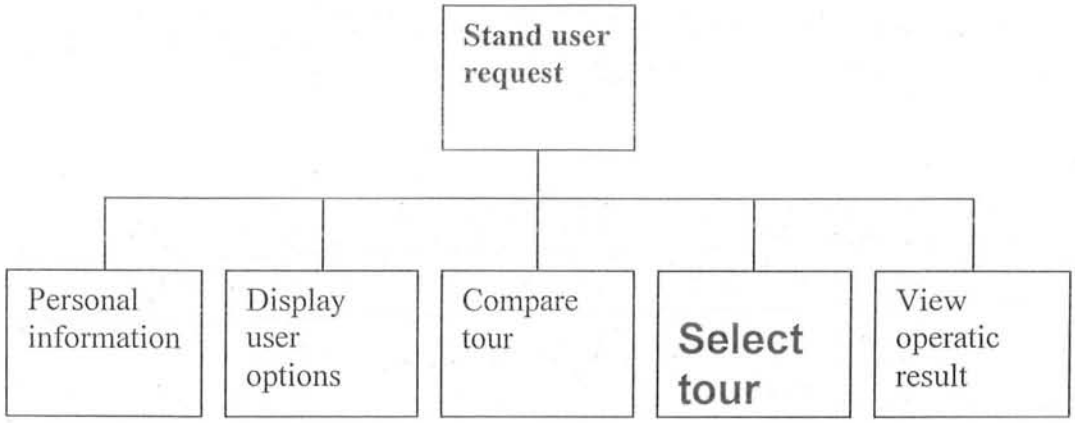


Figure 3.13 Program structure.

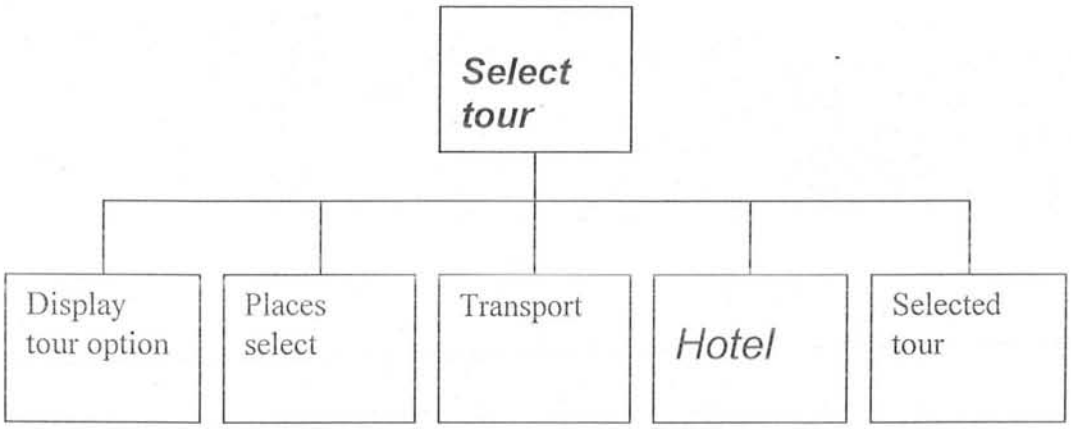


Figure 3.14 Program structure.

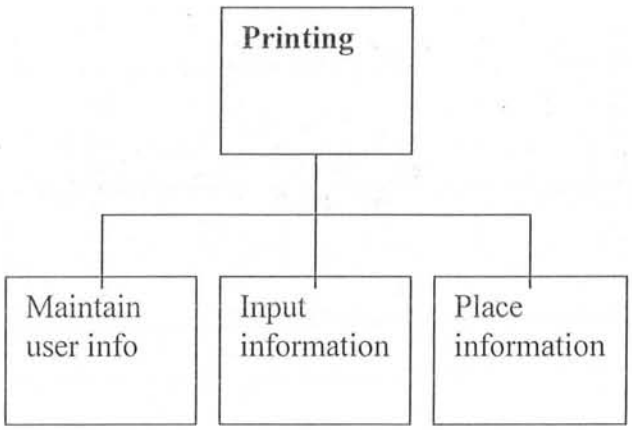


Figure 3.15 Program structure

5.2.4 Procedural Design

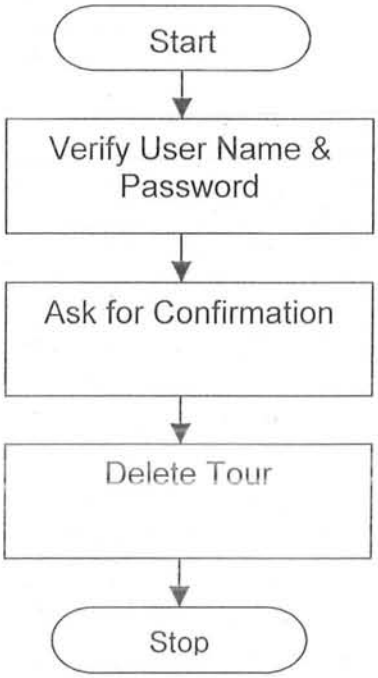


Figure 4.11

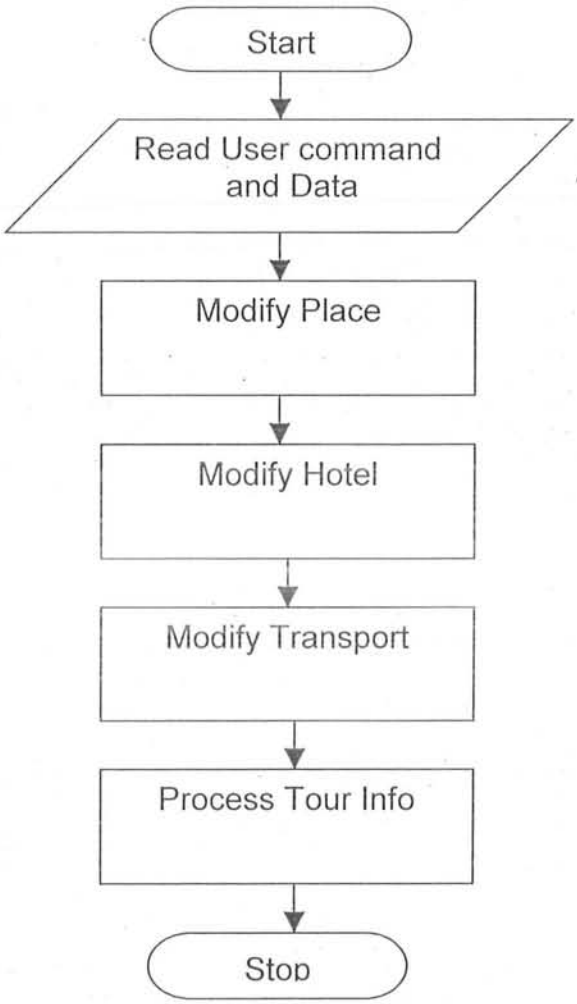

Start
Read User command and Data
Modify Place
Modify Hotel
Modify Transport
Process Tour Info
Stop

Figure 4.12

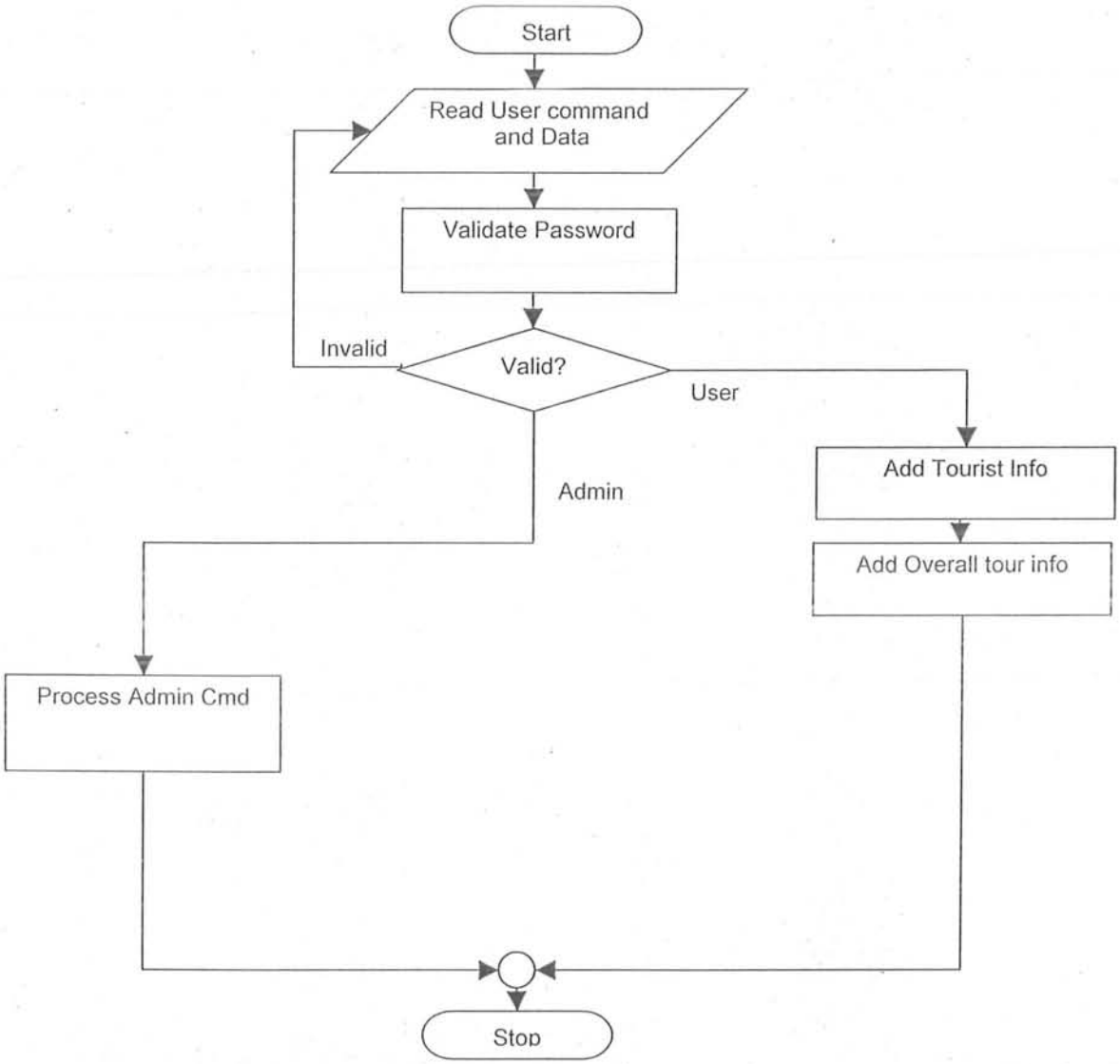

Start
Read User command and Data
Validate Password
Invalid
Valid?
User
Admin
Add Tourist Info
Add Overall tour info
Process Admin Cmd
Stop

Figure 4.13

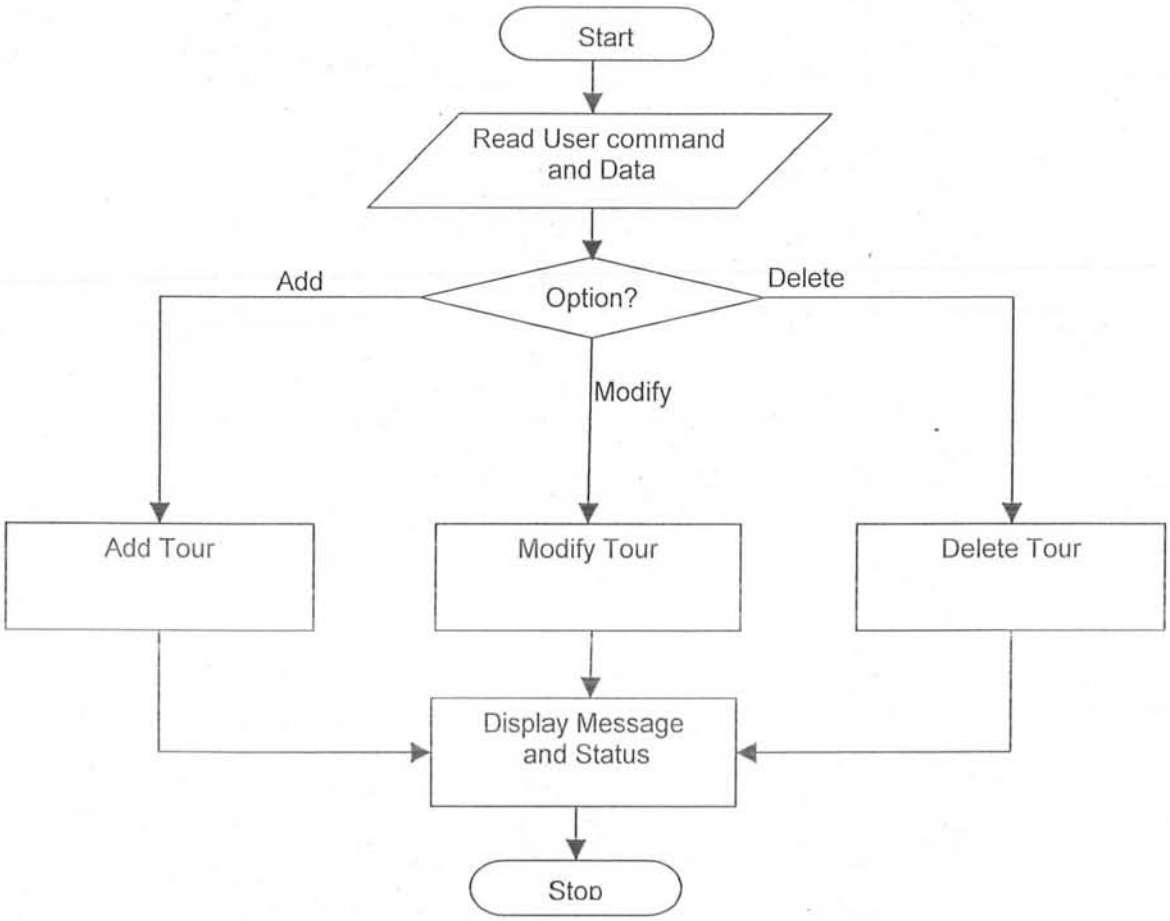

Start
Read User command and Data
Add
Option?
Delete
Modify
Add Tour
Modify Tour
Delete Tour
Display Message and Status
Stop

Figure 4.14

Chapter 6

Implementation

6.1 Overview

In this chapter different technologies that are used during the development of this project are discussed. It also throws light on the server configuration that has been done to get this product working and briefly explain the starting procedure of the software.

6.2 Technology Used

Following technologies has been used in this software.

1) Personal Home Pages (PHP)
2) MySQL DBMS.
3) Java Scripts.
4) Apache server

6.2.1 Personal Home Pages (PHP)

PHP is mainly focused on server-side scripting, so you can do anything any other CGI program can do, such as collect form data, generate dynamic page content, or send and receive cookies. But PHP can do much more.

There are three main fields where PHP scripts are used.

- **Server-side scripting**. This is the most traditional and main target field for PHP. You need three things to make this work. The PHP parser (CGI or server module), a web server and a web browser. You need to run the web server, with a connected PHP installation. You can access the PHP program output with a web browser, viewing the PHP page through the server

- **Command line scripting.** You can make a PHP script to run it without any server or browser. You only need the PHP parser to use it this way. This type of usage is ideal for scripts regularly executed using cron (on *nix or Linux) or Task

- **Scheduler (on Windows).** These scripts can also be used for simple text processing tasks. Writing client-side GUI applications. PHP is probably not the

very best language to write windowing applications, but if you know PHP very well, and would like to use some advanced PHP features in your client-side applications you can also use PHP-GTK to write such programs. You also have the ability to write cross-platform applications this way. PHP-GTK is an extension to PHP, not available in the main distribution.

6.2.2 Java Scripts

Java script is a client side scripting language that is used to make validation checks on client side like form validation etc. java script is extensively used in order to save server processing time

6.2.3 MySQL DBMS:

MySQL is a relational database management system. It is open source. **MySQL** is a client/server system that consists of a multi-threaded SQL server that supports different backend, several different client programs and libraries, administrative tools and a programming interface.

The following list describes some of the important characteristics of **MySQL**:

- Fully multi-threaded using kernel threads. That means it easily can use multiple CPUs if available.
- C, C++, Eiffel, Java, Perl, PHP, Python and Tcl APIs.
- Works on many different platforms. Like Solaris, Unix, Win95, Win98, NT and windows 2000.
- Very fast joins using an optimized one-sweep multi-join.
- SQL functions are implemented through a highly optimized class library and should be as fast as they can get! Usually there shouldn't be any memory allocation at all after query initialization.
- You can mix tables from different databases in the same query (as of version 3.22).

- A privilege and password system which is very flexible and secure, and which allows host-based verification. Passwords are secure because all password traffic when connecting to a server is encrypted.
- ODBC (Open-Database-Connectivity) support for Windows95 (with source). All ODBC 2.5 functions and many others. For example, you can use Access to connect to your **MySQL** server.
- 16 indexes per table are allowed. Each index may consist of 1 to 16 columns or parts of columns. The maximum index length is 256 bytes (this may be changed when compiling **MySQL**). An index may use a prefix of a char or varchar field.
- Fixed-length and variable-length records.
- Handles large databases. **MySQL** has been used with some databases that contain 50,000,000 records.
- Written in C and C++. Tested with a broad range of different compilers.
- A very fast thread-based memory allocation system.
- No memory leaks. Tested with a commercial memory leakage detector.
- All data are saved in the chosen character set. All comparisons for normal string columns are case insensitive.
- Aliases on tables and columns are allowed as in the SQL92 standard.
- The server can provide error messages to clients in many languages.
- Clients may connect to the **MySQL** server using TCP/IP connections or Unix sockets, or named pipes under NT. [MySQL Docs]
- Great connectivity with PHP.

6.2.4 Apache server

- Apache HTTP Server is free and performs very efficiently.
- Apache runs on many operating systems and the hardware that supports them.
- Apache has a built-in search engine and HTML authoring tools and supports FTP.
- Apache can be managed either from a server console or a Web server.
- Apache supports Server Side Includes (SSI), Active Server Pages and Java Servlets.

6.3 PHP Installation and Work with APACHE

1. Extract Php at location where u want it to be placed.

2. To work with Apache u have to do some configuration:
   i. There is a file "**php.ini-dist**" at location "**..\Php**" Copy it to location (For Windows 9x) "**..\Windows**" or (for windows 2k) "**..\winnt**" and rename it to "**php.ini**".
   ii. There is a file "**php4ts.dll**" at location "**..\php**" copy it to "**..\windows\system**" (For Windows 98) or "**..\winnt\system32**" (For Windows 2k).

3. Edit "**Php.ini**" from location "**..\windows**" (For 98) or "**..\winnt**" (For windows 2k) and do these two things:
   i. Find '**extension_dir=./**' and make it '**extension_dir="..\php"**'.
   ii. Find '**doc_root=**' and make it '**doc_root="..\apache\htdocs"**' And save '**php.ini**'.

4. Edit "**..\php\install.txt**"
   Copy these two lines
   LoadModule php4_module c:/php/sapi/php4apache.dll
   AddType application/x-httpd-php .php

5. Edit "**..\Apache\conf\httpd.conf**" and paste the two lines which are copies any where on the page but recommended find "**php**" and copy them near so can find it in future easily. if u has installed php in partition other than c: then change this **c:/php/sapi/php4apache.dll** (referring point 4) according to at which place u have installed php.

6. To Check Php is working with Apache Server or not
   i. Start Apache.
   ii. Make a file name "**myphp.php**" at location "**..\Apache\htdocs**" and in that file write only one line " **<? phpinfo() ?>** ".
   iii. In Internet Explorer Address bar write
   http://localhost/myphp.php (If Apache Port is not changed) **Or**
   http://localhost:portno/myphp.php (If Apache Port has been changed).

7. If u sees a page having title "**phpinfo()**" then it's working properly.

6.4 MYSQL COMMANDS FOR DATABASE CREATION

1. To know what databases exist:
   - show databases;

2. To create database:
   - create database ***databasename;***
     e.g. to create database with name student:
     create database student;

3. To go into database:
   - use ***databasename;***
     e.g. to go into student database:
     use student;

4. To know what table exist in the specified database:
   - show ***tablename;***

5. To know about fields of the table and its attributes like size and constraints
   - describe ***tablename***;

6. To create table:
   - create table ***tablename (fieldname typeandlimit constraint, ...);***
     e.g. to create table having name "student "and with field "student_id" of type int and max limit 5 digits and constraint not null, 2nd field "student_name" of type varchar with max limit of 20 char and no constraint.
     create table student (student_id int(5) not null, student_name varchar(20));

7. To select data from table:
   - select * from ***tablename;*** ***or***
   - select ***columnname1***, ***columnname2*** from ***tablename(s)*** where ***condition*** order by ***coloumnname/coloumnnumber;***
     e.g. To select all fields from student table.
     select * from student;
     To select 'student_id' and 'student_name' from 'student' table.
     Select student_id, student_name from student;

     To select 'student_id' and 'course_id' from 'student' and 'course table':
     select student_id, student_name from student, course;

     To select student_id and (student_id and fee) from the student and fee table respectively where student_id of student=student_id of fee:

select student.student_id, fee.student_id, fee where
student.student_id=fee.student_id.

Order by clause is used same as in SQL.

8. To add more fields to a table
   - Alter table ***tablename*** add ***columnname typeandlimit constraints***;

9. To modify the field of a table:
   - Alter table ***tablename*** modify ***coloumname typeandlimit constraints***;

10. To grant specific rights to the user:
    - Grant select, insert, update, delete, create, alter, drop on ***databasename.**** to ***username @ (serveraddress/ip)*** identified by ***password***;

11. To Insert Values
    - Insert into ***tablename*** values (***valint***, '***valchar***');

6.5 Installation of apache

1. Start setup, accept agreement and it ask for three values left them blank or give dummy values and next and then can install it complete or custom.

2. To check that apache is installed.
   i. Start apache from "**..\Apache Group\Apache**" and double click **Apache.exe.**
   ii. In Internet Explorer's Address bar write "**http://localhost**", if u see apache welcome page then its fine and working.

Chapter 7

Testing

7.1 Introduction

Testing a Website is a long and tedious task, but it's perhaps the most important of all. In this chapter, I will discuss the various stages I have followed for testing the web site .

7.2 Stages of Website Testing

There are numerous stages to testing, all of which are very important. Ranging from browser testing, to content testing, none should be excluded.

7.2.1 Visual Acceptance Testing

Visual Acceptance Testing is the first port-of-call for all Webmasters. This type of testing generally ensures that the site looks as it is intended to: This includes checking the graphic integration, and simply confirming that the site looks good.

The CMS is created using Dream Weaver and the templates are created using photoshop and are tested to be visualy acceptable and very simple graphical display features

7.2.2 Functional Testing

Functionality testing is perhaps the most vital area of testing, and one which should never be missed. Functionality testing does tend to be a bit boring, but the benefits certainly outweigh the time and energy it takes to do this properly. Functionality testing involves an assessment of every aspect of the site where scripting or code is involved, from searching for dead links, to testing forms and scripts.

Following are some test cases in order to test the scripts written for CMS.

- Login
- Submit data
- Delete Data
- Modify Data
- Search Data

The template used for the test cases is

Req	File	Description	Expected Input	Actual Input	Expected Output	Actual Output	Date	Tested By

7.3 Test Cases

Login

Input Data: char, integer and floating point numbers.
Output Data: Error Messages and successful Login.

Req	File	Description	Expected Input	Actual Input	Expected Output	Actual Output	Date	Tested By
Admin	Login.php	This page executes when login button clicks in login.asp page	1	Administrator	Error message	Login successful	25 Jan. 2004	Raheel
Admin			Administrator	1	Login successful	Error message	25 Jan. 2004	Raheel
User			1	Tourist	Login successful	Login success	25 Jan. 2004	Raheel
User			Tourist	1	Error message	Error mesage	25 Jan. 2004	Raheel

Submit Data

The same type of data is submitted in various modules of the Admin Panel of the project like in upload member facilities; upload mobile facilities. Following are their test cases.

Req	Description	Expected Input	Actual Input	Expected Output	Actual Output	Date	Tested By
Hotel	The Information to be validated	1	1/25/2004	Error message	Success message	25 Jan. 2004	Raheel
Tourist		1	1	Error Message	Error message	25 Jan 2004	Raheel
Room		A	1/25/2004	Error Message	Success message	25 Jan 2004	Raheel
Transport		1/25/2004	A	Success message	Error message	25 Jan 2004	Raheel
Place		1/25/2004	1/25/2004	Success message	Success message	25 Jan 2004	Raheel
Userersonal Info		1/25/2004	25/1/2004	Success message	Success message date format convert implicit	25 Jan 2004	Raheel

Delete Data

For the deletion of data, the id of the record is searched. So the test cases for the deletion is

Req	Description	Expected Input	Actual Input	Expected Output	Actual Output	Date	Tested By
Hotel	The id is to be tested.	1	1	Success message	Success message	25 Jan. 2004	Raheel
Transport		a	1	Error Message	Success message	25 Jan 2004	Raheel
Place		a	a	Error Message	Error Message	25 Jan 2004	Raheel
Room		1	a	Success message	Error Message	25 Jan 2004	Raheel

Modify Data

In case of modify, the data can be tested is only the date, which is tested above in the submit data test case.

Search Data

To modify the data, the particular data must be searched first. The data is searched on the basis of id. So the test cases are same as in case of delete.

7.4 Content Proofing

This stage of testing removes any errors in your content, and should ensure that your site has a professional appearance. In this phase, you should reread each page on your site, and check for spelling and grammatical errors. As I have used Dream weaver, it

provides the tool for automatic spell checking and grammer checking and hence all pages are tested and verified using Dream weaver.

7.5 Database Access

In my application, I have constructed the database in MySQL.you'll often construct a database of your customers using an online form that's filled in by users. You may also incorporate functionality that retrieves data from a database. So it is ensured that all scripting variables are defined properly, and that the database is in a directory which supports Read and Write access as a minimum, with Execute access often required as well. It is checked that the correct results are shown from the database for each request that's entered.

7.6 JavaScript

JavaScript performs main task in validating client side checks. I have used JavaScript in all my pages. All the JavaScript contents are written using the built in facility provide by Dream weaver and finally checked for functionality and performance.

Appendix A

Database Design

DataBase Design

Hotel

Field	Type	Null	Key	Default	Extra
hid	int(5)			0	
name	varchar(100)				
type	varchar(50)				
pid	int(5)			0	

Hotel room

Field	Type	Null	Key	Default	Extra
hid	int(5)			0	
rid	int(5)			0	

Ordacpswd

Field	Type	Null	Key	Default	Extra
uname	varchar(35)	YES		NULL	
pswd	varchar(20)	YES		NULL	

Place

Field	Type	Null	Key	Default	Extra
pid	int(5)			0	
name	varchar(100)				
description	varchar(255)				
rates	varchar(20)				

Room

Field	Type	Null	Key	Default	Extra
rid	int(5)			0	
type	varchar(100)				
description	varchar(255)				
floor	varchar(50)				
rates	varchar(20)				

Tourist

Field	Type	Null	Key	Default	Extra
tu_id	int(5)			0	
name	varchar(100)				
address	varchar(255)				
phone	varchar(25)	YES		NULL	
e_mail	varchar(70)	YES		NULL	
country	char(3)	YES		NULL	
rates	varchar(20)				

Tourist _hotel

Field	Type	Null	Key	Default	Extra
tu_id	int(5)			0	
frm_date	varchar(10)				
to_date	varchar(10)				

Tourist _place

Field	Type	Null	Key	Default	Extra
tu_id	int(5)			0	
pid	int(5)			0	
date	varchar(10)				

Tourist transport

Field	Type	Null	Key	Default	Extra
tu_id	int(5)			0	
trid	int(5)			0	
date	varchar(10)				

Transport

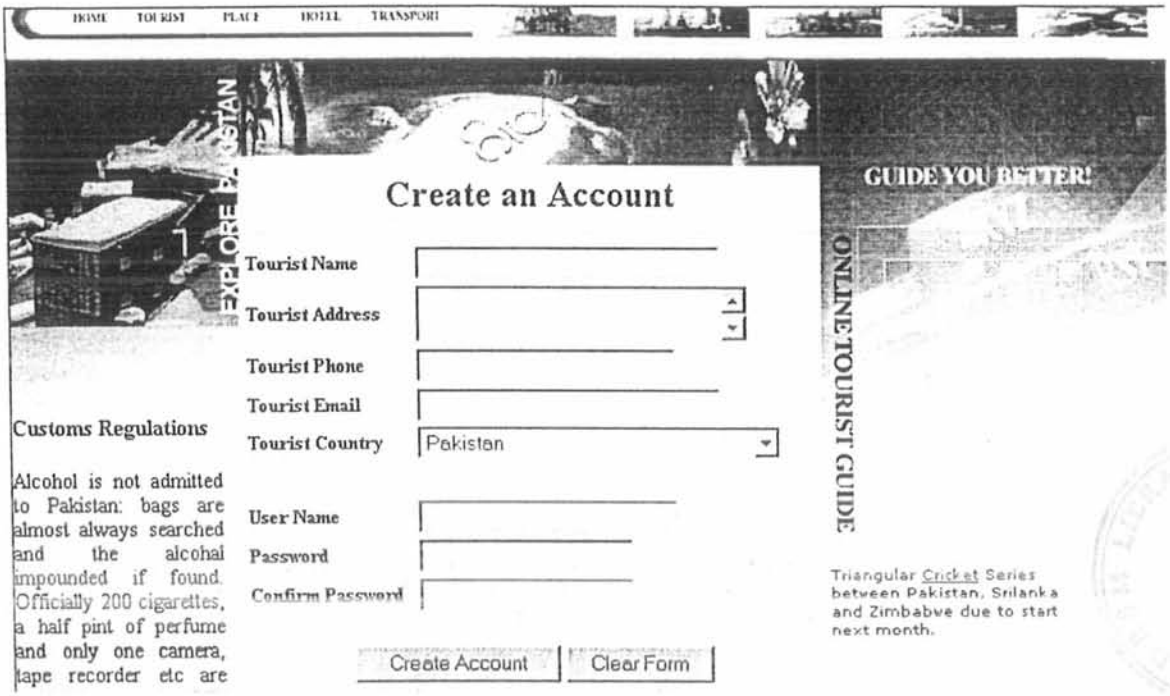
Field	Type	Null	Key	Default	Extra
trid	int(5)		PRI	0	
type	varchar(100)				
fair	varchar(20)				
p_frm	varchar(150)				
p_to	varchar(150)				

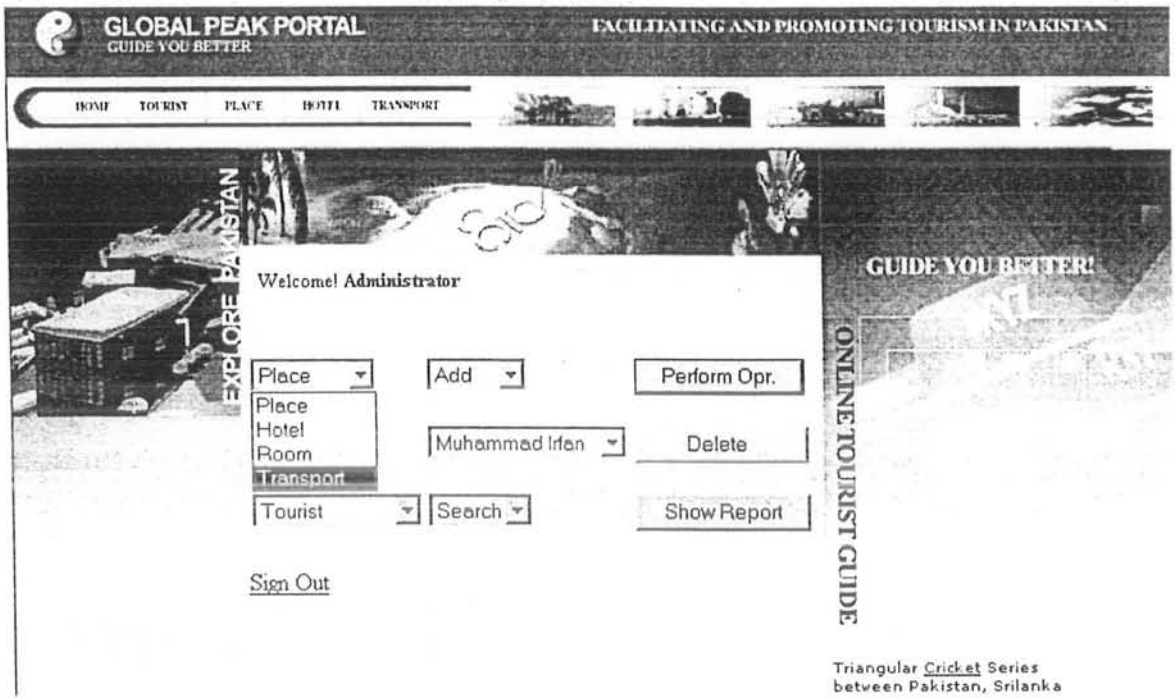
User pswd

Field	Type	Null	Key	Default	Extra
uname	varchar(13)	YES		NULL	
pswd	varchar(20)	YES		NULL	

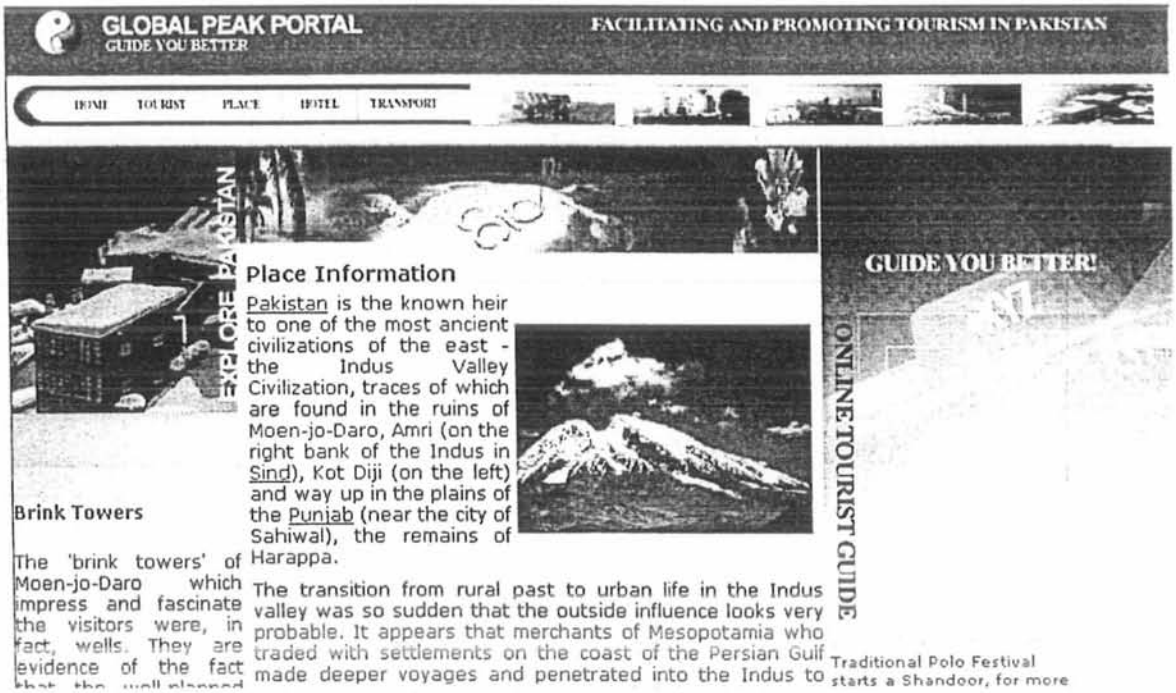
Appendix B

Screen Shots


HOME TOURIST PLACE HOTEL TRANSPORT
EXPLORE PAKISTAN
Create an Account
Tourist Name
Tourist Address
Tourist Phone
Tourist Email
Tourist Country
Pakistan
User Name
Password
Confirm Password
Create Account
Clear Form
GUIDE YOU BETTER!
ONLINE TOURIST GUIDE
Customs Regulations
Alcohol is not admitted to Pakistan: bags are almost always searched and the alcohal impounded if found. Officially 200 cigarettes, a half pint of perfume and only one camera, tape recorder etc are
Triangular Cricket Series between Pakistan, Srilanka and Zimbabwe due to start next month.


GLOBAL PEAK PORTAL
GUIDE YOU BETTER
FACILITATING AND PROMOTING TOURISM IN PAKISTAN
HOME
TOURIST
PLACE
HOTEL
TRANSPORT
EXPLORE PAKISTAN
Welcome! Administrator
Place
Add
Perform Opr.
Place
Hotel
Room
Transport
Muhammad Irfan
Delete
Tourist
Search
Show Report
Sign Out
GUIDE YOU BETTER!
ONLINE TOURIST GUIDE
Triangular Cricket Series
between Pakistan, Srilanka


GLOBAL PEAK PORTAL
GUIDE YOU BETTER
FACILITATING AND PROMOTING TOURISM IN PAKISTAN
HOME
TOURIST
PLACE
HOTEL
TRANSPORT
Hotel
Pakistan's main cities - the Federal Capital, Islamabad and its twin city Rawalpindi, as well as the Provincial capitals, except Quetta i.e. Lahore, Karachi, and Peshawar have international standard 5 - Star accommodation for tourists. In Quetta, the Provincial capital of Balochistan, a 4-Star Serena Hotel is located. Serena Hotel is also located in Faisalabad, Gilgit and Hunza. In all these touristically important cities, good international standard accommodation is available. Every town has a wide range of locally run hotels which vary greatly in price and standard.
The Pakistan Tourist Development Corporation runs motels and guest houses at the most popular tourist resorts and places of interest. These are at Besham and Gilgit (on the
Customs Regulations
Alcohol is not admitted to Pakistan: bags are almost always searched and the alcohal impounded if found. Officially 200
GUIDE YOU BETTER!
ONLINE TOURIST GUIDE
Triangl
betwee


GLOBAL PEAK PORTAL
GUIDE YOU BETTER
FACILITATING AND PROMOTING TOURISM IN PAKISTAN
HOME TOURIST PLACE HOTEL TRANSPORT
EXPLORE PAKISTAN
GUIDE YOU BETTER!
ONLINE TOURIST GUIDE
Place Information
Pakistan is the known heir to one of the most ancient civilizations of the east - the Indus Valley Civilization, traces of which are found in the ruins of Moen-jo-Daro, Amri (on the right bank of the Indus in Sind), Kot Diji (on the left) and way up in the plains of the Punjab (near the city of Sahiwal), the remains of Harappa.
The transition from rural past to urban life in the Indus valley was so sudden that the outside influence looks very probable. It appears that merchants of Mesopotamia who traded with settlements on the coast of the Persian Gulf made deeper voyages and penetrated into the Indus to
Brink Towers
The 'brink towers' of Moen-jo-Daro which impress and fascinate the visitors were, in fact, wells. They are evidence of the fact
Traditional Polo Festival starts a Shandoor, for more


GLOBAL PEAK PORTAL
GUIDE YOU BETTER
FACILITATING AND PROMOTING TOURISM IN PAKISTAN
HOME TOURIST PLACE HOTEL TRANSPORT
EXPLORE PAKISTAN
Tourist Information
Genral information for Tourist
"AS often as possible, do what others are not doing: Go off-season instead of on, go in bad weather instead of good, walk when others ride, laugh when others cry...."
Ed Buryn, 1971
Customs Regulations
Alcohol is not admitted to Pakistan: bags are almost always searched and the alcohal impounded if found. Officially 200
Visas
A valid passport is required for all visitors. All nationalities need visas for Pakistan, except nationals of Honk Knong, Ireland, Malaysia, Singapore, Tanzania, Tonga, Trinidad and Tobago, and Uganda. Israelis are not admitted to Pakistan. A maximum of three months'
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HOME
TOURIST
PLACE
HOTEL
TRANSPORT
EXPLORE PAKISTAN
Transport Service
There are car hire facilities at all International Airports. Agencies also function in major hotels. In the streets you can get yellow cabs or taxis.
Metered taxis of different capacities are available everywhere in big cities. In case of difficulty, get the assistance of Police officials on duty. On some occasions you may also need to exercise some bargaining as well. Try asking a few taxi drivers located at different places to get a clear idea of the transport charges.
Railways
Maps
Maps are difficult to find in Pakistan-good maps do not exist. The most useful maps are the 1:1,000,000 contour maps issued by the
GUIDE YOU BETTER!
ONLINE TOURIST GUIDE
Tourist Visa - a new category of visa starts between India

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