Database Management System for Hotel DBMYS

HOTELIER

Project Report in partial fulfillment of
2nd year 2nd semester computer project course of
Bachelor of Engineering
Department of Computer Science & Engineering

By

Digdarshan Lal Dhonju
Binsan Khadka
Shree Krishna Shrestha
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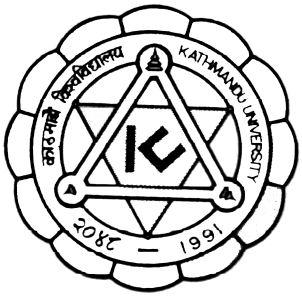

Under the Supervision of
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Department of Computer Science and Engineering
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ABSTRACT

This report is divided into five chapters.

The first chapter deals about background issues about almost everything covered in the project, from manual hotel management system to the computerized one. This chapter also presents the process during the innovation of computerized hotel management system and specifies the goals and objectives of the project.

The second chapter deals about the requirement and feasibility analysis of the project. The chapter discusses about the existing system and evaluates the manual hotel management system.

The third chapter deals about the system design of the project. It discusses the entity-relationship diagram used for modeling the system.

The fourth chapter deals about the implementation issues and actual implementation. It is further divided into significant portions, system design implementation, database implementation and front-end implementation.

The fifth chapter gives our insight about the project and some recommendations are also given for further undertaking of projects like this.

ACKNOWLEDGEMENT

We were able to complete this project with a great deal of additional research. Several people have helped us with both the research and production of this project.

First, a very special thanks to Mr. Bramha Nanda Sapkota, group advisor, for providing us guidance and useful suggestions. Our sincere thanks also goes to Mr. Bhim Prasad Upadhaya for motivating and providing useful advice.

Thanks to Hotel Sherpa, Hotel Himalayan Horizon Sun-n-Snow (P), Ltd. , Dhulikhel Lodge Resort for giving us all the details related to Hotel Management System.

Also our sincere thanks goes to Mr. Roopesh Shrestha, Student of Hotel Management for guiding us through the real time hotel processes and providing us the necessary information.

Last but not the least our heart felt thanks to our friends for their helps and inspirations.

Author.

AUTHOR'S NOTE

The report is prepared in the partial fulfillment of the 4th semester project course under the Department of Computer Science and Engineering, Kathmandu University.

The project submitted is no way the complete project as to the concept behind this.

Any topological errors are simply ours. Please consider and the suggestions are always welcome.

Authors

Kathmandu University

June 2001

APPENDIX:

Chapter I

BACKGROUND

1.1 Introduction to Hotel Management System

One of the most important sector for the economic growth of the country is the Tourism sector, where no doubt the good facilities, good behaviour and a good management plays a major role for their attraction. Hotels, Lodges, Resorts etc., being the important for their management during their stay, should have the proper manpower and equipment to provide a better service.

“Hotel” can simply, be defined as a place where a bonafide traveller can receive food and shelter, provided he/she is in a position to pay for it and is in a fit condition to be received. So, in general terms, Hotel Management System is expertise in management, professional managers, technicians, manuals, systems, etc. on the basis of management fees and share of profits as incentive payment, leading to the prosperity and profit for the hotel.

The term Hotel Management System includes the management of each and every aspect related to the Hotel for the attraction, smoothness of handling things, and proper management. Especially the Reservations, Registrations, Accounts, Services, Payment modes, Extra activities should be handled and maintained carefully and in an effective way so as to satisfy the guest as well as to check there is no leakage of profit to the hotel. The better the service, more the attraction and more the profit not only to the Hotel but also indirectly to the nation.

1.1.1 Front Office

The front office in a hotel is the department responsible for the sale of hotel rooms through systematic methods of reservations followed by registrations and assigning rooms to customers. ‘Sale’ here means the use of rooms at a price. It has a complementary role of image-building which is the first and last point of contact of every guest. Hence, the front office in a hotel holds prime importance in view of the basic nature of business of a hotel i.e. to sell rooms.

The term "Hotel Reception" is interchangeably used with Front Office.

1.1.2 Stock Department

Stock department is internal department of the Hotel where the stocks of the things required for the Hotel are handled. The purchased stocks are entered and are transferred to the respective departments according to the demand. A good database program is required to manage the things in stock.

1.2 Introduction to the HOTELIER (Software)

HOTELIER is stand-alone multi-user technology based software using full graphical user interface and is meant for managing the guest, room, and stock property of the hotel. HOTELIER improves the business performance of a hotel by compressing the time and improving the quality of hotel's guest service and related business processes like reservation, check-in , check-out , receiving message, making phone calls, and stock handling process with full graphical interface.

1.3 Goals and Objectives of HOTELIER

The main objective of HOTELIER is to make Hotel Management System much simpler and more effective in order to meet the satisfaction levels of customers.

The goal of this project is to introduce the efficient consistent and computerize Hotel Management System to the society of Hotels and let them get the opportunity to use the most happening technology to prosper their business and themselves.

Apart from this, HOTELIER aims to provide the advanced security, thus protecting the confidentiality of all information stored in the system and limiting the access control.

1.4 Processes in HOTELIER

HOTELIER is made to be used by different staffs at different department. Primarily, it functions the usability in Front Office, Cashier and Stock Department.

In the software, the concept of giving permission to use certain menus are handled according to the Department ID entered at the time of login. So, all the functions (menus) related to the concerning departments will be seen to the user and other are hidden to him.

After viewing the selective menus of each Department, the user cannot access to it until and unless he/she gives his/her Identification, i.e. his Employee ID and Password. Once, the employee has logged on, he has an additional facility to change his password if he desires. The logon table stores the Date, time and Employee ID at the time of his login.

The employee now can work with HOTELIER. Each employee should logoff before leaving the duty.

The primary functions of Front Office are as follows:

Room Booking

If any message for room reservation arrives then Receptionist will fill up the *Reservation* form. All the necessary informations like number and type of rooms to reserve, the arrival date, number of days to stay, etc. are filled up.

Each new Reservation form generates a unique Reservation Folio ID for him which can be referred during guest registration.

Guest Registration

Whenever a guest arrives in the Hotel, the first task of the Receptionist is to enter the guest's information filled up in the Registration Card. If guest had already booked then the data filled previously during reservation will be inserted automatically in the respective fields through the Reservation Folio ID. During registration, room(s) is/are allotted to the guest. The selection of rooms available can also be viewed graphically through the query button.

During registration, all the details of guest like Name, Address, Passport No., Visa No. etc are stored so that the details can be retrieved during and even after he leaves the Hotel.

Handle message and telephone calls

If some message is dropped for particular guest while he is out, primarily it is stored in computer and then relayed to the concerning party. The advantage for storing the message in the computer is that the message can be viewed or re-relayed at any time in case of loss of message.

If a guest makes a telephone call from the Hotel, he should be accordingly charged. So the details of telephone call is stored through the “Telephone” form.

Cash Bill Entry

Different services from different departments can be used by the guests. Since the software is primarily limited to Reception, Cashier and Inventry, the bills of the services used are not directly updated through the networking system from the concerned departments but entered through the receptionist according to the bill from the concerned departments signed by guest.

Check-in / Check-out Query

The necessary information like the list of guest checking in today can be viewed or printed through front office so that the necessary arrangement can be done in time as requested by the guest.

Guest Info

The details of the guest staying at the Hotel or the history of the guest who had stayed previously can be viewed through the Front Office.

Room Details

Graphical Top View of the rooms on each floor can be viewed whether they are occupied or not with and additional details of the rooms if double clicked on them.

1.5 Technical Requirements

The minimum requirements for HOTELIER are :

Hardware:

- PC with Pentium II Processor (260 MHz) or latest
- 32 MB of RAM or more
- Color Monitor (Preferably)
- Hard disk with at least 50 MB of free space

Software :

- Windows 98 operating system with Microsoft Jet 3.51 OLE DB Provider

1.6 Introduction to Database Management System (DBMS)

A database system is essentially nothing more than a computerized record-keeping system. It is repository for collection of computerized data files. The user of system will be given facilities to perform a variety of operation data record such as :

- ⇨ Inserting new data into existing files
- ⇨ Retrieving data from existing files
- ⇨ Updating data in the existing files
- ⇨ Deleting data from the existing files

The collection of inter-related data referred to as the database contains information about one particular enterprise. The primary goal of DBMS is to provide in environment that is both convenient and efficient to use in retrieving and storing database information. The management of data involves both the definition of structures for the storage of information and the provision of mechanisms for the manipulation of information. It also provides safety of information stored, despite system crashes or attempt at unauthorized access.

The advantage of computerized database are:

- ⇨ It avoids the replication of the same data in many places in full based systems
- ⇨ Consistency of data is avoided
- ⇨ Fast accessing of data
- ⇨ Multiple user access the data at the same time
- ⇨ It provides security of data by giving privileges to access the database to the user according to their records.

1.6.1 Normalization of Data

Normalization is the process of organizing data in the database. This includes creating tables and establishing the relationships between those tables according to the rules designed both to protect the data and to make the database more flexible by eliminating two factors: redundancy and dependency.

There are some benefits of normalization.

- ⇨ Faster sorting and index creation because tables are narrower
- ⇨ More clustered indices are allowed because there are no tables
- ⇨ Narrower indices per table, helping INSERT, UPDATE, and DELETE performance
- ⇨ Fewer nulls and less redundant data, increasing database compactness

1.7 Introduction to Software / Language used

For our project we have used the following the software:

1. Microsoft Visual Basic 6.0
2. Microsoft Access 8.0
3. SQL (Structured Query Language)

1.7.1 Microsoft Visual Basic 6

Microsoft Visual Basic is rapid application development software, which can be used to develop application programs for a variety of purposes. This is the fastest and easiest way to create application for Microsoft Windows whether you are an experienced profession or brand new to Windows programming. Visual Basic provides you with a complete set of tools to simplify rapid application development.

The “Visual” part refers to the method to use to create the graphical user interface (GUI). Rather than writing numerous lines of code to describe the

appearance and the location of interface elements, you simply add re-built objects into place on screen.

The “Basic” part refers to the BASIC (Beginners All Purpose Symbolic Instruction Code) language, a language used by more programmer than any other language in the history of computing. Visual Basic has evolved from the original basic language and now contains several hundred statements, functions and keywords, many of which relates directly to the Windows GUI.

Visual Basic has the tools unit :

a) Data Access features allow you to create database, front-end application and scalable server-site components for more popular database formats, including Microsoft’s SQL Server and other enterprise-level database.
b) ActiveX™ Technologies allow you to use the functionality provided by the other applications such as “Microsoft Word “ Word Processor, Microsoft Excel and other Windows application. You can even automate applications and object created using the professional or enterprise editions of Visual Basic.
c) INTERNET capabilities make it easy to documents and across the Internet or Intranet from within your application or to create Internet server applications.

1.7.2 Microsoft Access

Microsoft Access provides the platform to design the database.

About designing the database

Whether you are using Microsoft database or Microsoft Access Project, good database design is the key stone to create a database that does what you want it to do efficiently, accurately and effectively.

Steps in designing a database

This topic provides reference information about these basic steps in designing a database.

- ⇨ Determine the purpose of your database.
- ⇨ Determine the tables you need in database
- ⇨ Determine the fields you need in the tables
- ⇨ Identify the fields with unique values in each record
- ⇨ Determine the relationships between the tables
- ⇨ Refine your design
- ⇨ Enter data and create other database objects
- ⇨ Use Microsoft Access Analysis Tools

1.7.3 SQL (Structured Query Language)

SQL or Structured Query Language is a nearly universal language used for database management. SQL is a declarative language as opposed to a procedural language such as Visual Basic. In a declarative language, you specify what you want, not how to do it. You don't need to tell SQL how to access a database; you only need to tell it what you want from database.

You use queries to view, change and analyze data in different ways. You can also use them as the source of records for forms, reports, and data access pages. SQL can be used in Visual Basic data control that helps you to update the database at the runtime.

SQL is both data definition and date manipulation language of a number of relational database systems.

CHAPTER II

REQUIREMENT STUDY AND FEASIBILITY ANALYSIS

This section deals about the feasibility of HOTELIER in context of manual system.

2.1 Problems with manual Hotel Management System

It is important to keep pace with time with the increasing competition in the market and to stand on the present environment of the modern world.
The various drawbacks of manually handling the operations in the hotel are:-

- ⇨ Though paper work acts as the basis for any activities by now-a-days this is considered as slower way of performing compared to the computerized system.
- ⇨ Searching records of individual guest takes time.
- ⇨ Record of guest and payment record can be inconsistent.
- ⇨ The system is unreliable and inaccurate.
- ⇨ Uneconomical due to the large number of manpower, stationeries, and time investment.
- ⇨ To find the info and the current balance of the guest manually is burdensome.
- ⇨ Manual receipt making is not efficient when the party is large.
- ⇨ Retrieving information like reports and queries is very time consuming and almost impossible practicably if time has to be considered.

2.2 Requirement of Hotelier

After the analysis on the problems associated with manual system of the hotel management, it is understood that the proper system for maintaining the information of the guest and retrieving the information, personal accounts, payment bill and the stock management is required. So, in order to overcome those problems, a system was needed to develop which would help to fulfill the following requirements of the hotel management system.

- ⇨ Storing the information of the guest in the computerized database.
- ⇨ Generating receipt and other balance records
- ⇨ Accessing information of the guest
- ⇨ Updating the guest account according to the service used by him
- ⇨ Making queries to know about the guests checking-in, checking-out, room occupancy, services available
- ⇨ Generating bills at the time of check-out
- ⇨ Knowing the foreign currency exchange rate for converting the currencies
- ⇨ Managing the stocks at the Stock Department

2.3 Feasibility analysis of HOTELIER

2.3.1 Technical Feasibility

Technically, the HOTELIER will sound as the system uses the renowned database system Microsoft Access as backend database. Apart from that Microsoft Access also has features for data integrity checking which ensures that the database is always in correct state. The Microsoft Access also ensures the data consistency. For the front end we will be using Visual Basic which is very efficient, easy and reliable visual rapid application development tool. Visual Basic provides the capability to develop the database application with ease and reliability. With its user-friendly environment we can create equally friendly database applications. It also provides the facility for data validation in the front and to ensure the correctness of the database.

2.3.2 Economic Feasibility

Economically, the HOTELIER is also feasible, is there is almost no expenses incurred in developing the system. For the development of the HOTELIER we will be using Microsoft Visual Basic 6.0 as the front-end development software. Microsoft Access 97 as the back-end database management system. There will be no expenses incurred in using these software as they are freely provided to us in the laboratory, KU. Moreover, no charge is incurred for human resource as he project is being done as partial fulfillment of 4^{th} Year project course of Department of Computer Science and Engineering, Kathmandu University.

Whereas from the users point of view, the technical requirements worthless in compare to the effectiveness and efficiency HOTELIER provides for the Hotel management record keeping and manipulation. Unless the Hotel uses systems like EPAX, Networking there will be no extra costs needed for the system.

CHAPTER III

SYSTEM DESIGN

3.1 DFD Analysis

Data flow diagram (DFD) is a method used to illustrate the flow of data in a system. It is one of the most important modeling tools used by system designers to understand the system. As information moves through software, it is modified by a series of transformation. A data flow diagram (DFD) is a graphical technique that depicts information flow and the transforms that are applied as data move from input to output. The DFD provides the mechanism or functional modeling as well as information flow modeling.
The illustration of DFD is shown below: -

3.2 ER Analysis

The entity-relationship (ER) modeling i.e., based on the perception of a real world that consists of a set of basic objects called entities and of relationships among these objects the objects have their other attributes and once object is differentiated from the other by their attributes.

An entity is a thing or a object in the real world that is distinguishable from all other objects and a relationship is an association of two or more entities.

Two entities can be related to one another in the following ways.

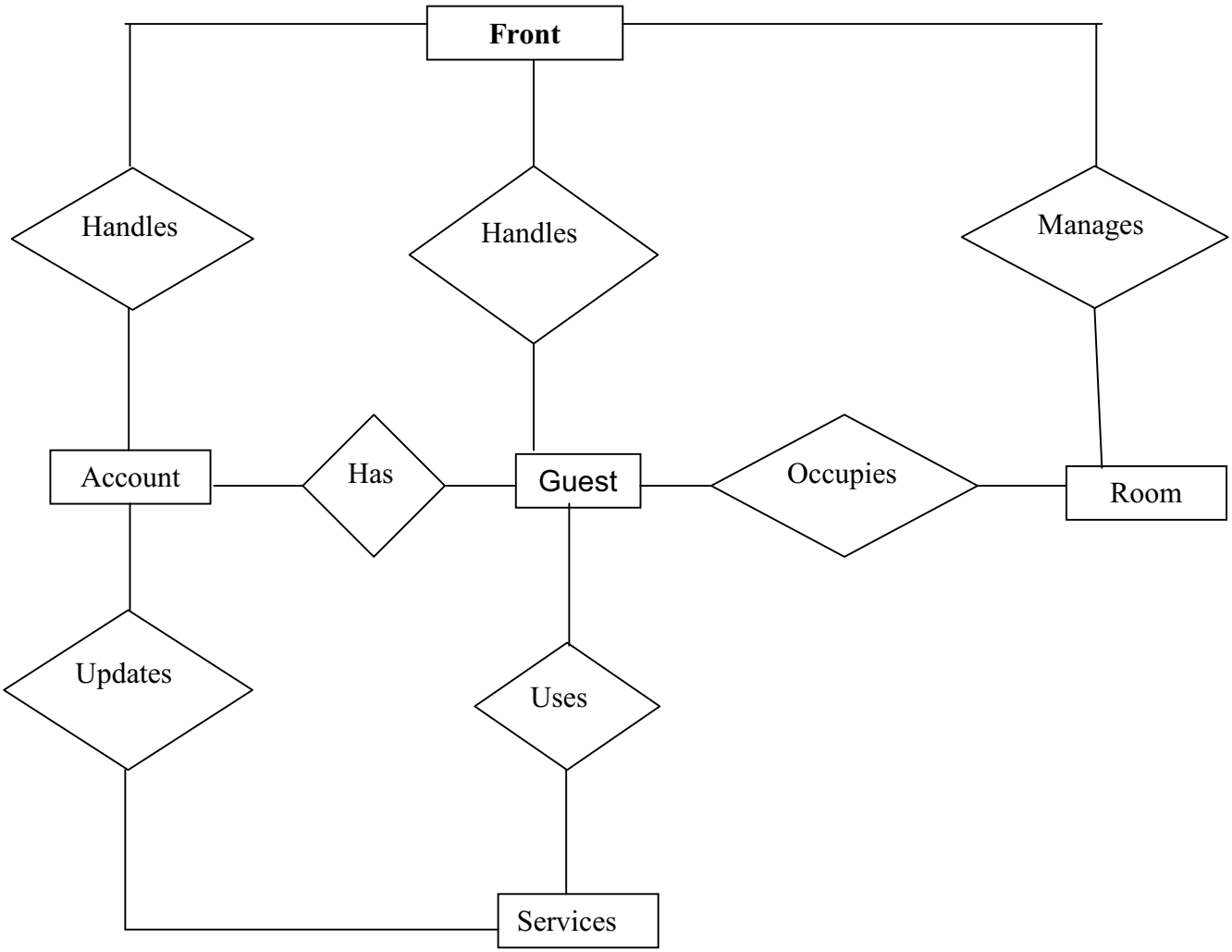
One to One
An entity is one entity can be associated as most one entity in the other entity set.

One to Many
An entity is one entity set can be associated to any number of entities in the other entity set. However, the entities in 2nd entity set can be associated with only and entity in use 1st entity set.

Many to One
Any no. Of entities in one entity set can be associated to only entity in the other entity set. However, the entity in 2nd entity set can be associated with any number of entities in the first entity set.

Many to many:
An entity in one set can be associated with any no. of entities in the other entity set and vice versa.

ER-DIAGRAM


Front
Handles
Handles
Manages
Account
Has
Guest
Occupies
Room
Updates
Uses
Services

3.3 Identification of major Inputs and Outputs of the HOTELIER

Since the HOTELIER normally deals with guest the Major inputs involved are:

Room Reservation
The necessary information like name of Person, Date of Arrival, Days to stay, Type of Room, Reservation, etc are the inputs of room reservation. All of these informations are stored in a single table name “Reservation”

Guest information
After the arrival of guest, the informations stored in two tables, namely guest-registration and room-detail. The room number allocated to the guest is set as occupied in the table and room detail and other information are stores in Guest Registration Table

Service entry
According to the service used, the details are stored in two tables “Cash” and “Bill”. In cash, the name of service user, room no, address, etc are stored and a unique ID is stored. This ID is looked up from “Bill” where many item details is used by guest and are stored and look up to cash store the ID related to “Cash”. So each guest information (one record) in cash are related to many records (items used)in “Bill”.

Message
The message, message from, message by, etc are simple stored in one table.

Similarly the major outputs involved are:

According to Inputs and certain calculations, HOTELIER gives out outputs

Check-in
The necessary information stored in “Reservation” Table is simply listed out according to the records corresponding to the arrival date equal to the Today’s Date.

Checkout
Also the list of records from guest registration whose departure date corresponds to today’s date.

Room detail
The graphical display of room information floor-wise is shown from the table “Room_Detail”.

Item Details
Item details stored in table “Item_ Detail” is simply displayed in MSFlexgrid.

Guest Info
The details of table “GuestRegistration” according to the Guest selected is shown out.

Cash Bill
The service used by guest stored in “Cash” and “Bill” table is listed in Cash Bil so that at the time of checkout list of service used by particular guest is displayed. If necessary it can be printed out.

CHAPTER IV

IMPLEMENTATION OF HOTELIER

4.1 Introduction

The project Hotelier was implemented using the software Visual Basic Version 6.0 and Microsoft Access Version 8. The implementation phase was further divided into three phases.

- System implementation phase
- Database implementation phase
- Front-end implementation phase

4.1.1 System Implementation phase

In the system implementation phase, conceptual model of the database as designed with the help of system diagrams (DFD, ER). The structure of the table was designed and the relations between the tables were defined. The output of this phase was a well-defined table structure and clearly defined relation between those tables. Also the integrity rules were also defined in this phase.

4.1.2 Database Implementation phase

In the database implementation phase, the normalized table were built and implemented in the database, in this phase we clearly defined the primary key and maintained relationships between tables.

4.1.3 Front End Implementation Phase

In this phase front-end for the application was developed. The front-end was developed in Visual Basic 6.0. For accessing the database made in Microsoft Access, we have used two important tools the Data Control and the Data Access Project incorporated in Visual Basic.

Data control access the database without any programming. By setting the few properties of control and using regular controls, such as textbox and MSFlexgrid control to display the values of the fields in the database.

Mainly Data Access Object is used to access the databases through the programming. All the functionality of data control is also available to the program, through the data access object for example.

4.2 Database Structure of the Hotelier

Name of the database for the Hotelier is “Hotel-DBMYS.mdb”.

All the tables are not necessarily related, since the system does not require. The database contains the following tables:

Bill:

Field Name
Cash_ID
ItemCode
Qty
Cost

Cash:

Field Name
CashBill_No
GuestFolio_Id
Taken By
OrderTicket_ No
Date
OrderedTime
DeliveryTime
Server
ID

Message:

Field Name
Message_No
From
Room_No
Date
Time

Department List:

Field Name
Department_ID
DepartmentName
LogStatus

Employee_Detail:

Field Name
Employee_ID
Password
Department_ID
Post
Name
Address
Phone_No
Duty_Shift

Logon_Table

Field Name
Employee_ID
Log_on_Time
Log_off_Time

Reservation

Field Name
Rfolio_No
Surname
First
Middle
Arv_Date
Arv_Flt_No
Arv_Time
Room_Type
No_of_Rooms
No_of_Days
Dep_Date
Confirmation
VIP
Airport_Pickup
Foreigner

Specials
Made_By
Company
Address
Date
Resv_Taken_By
Mode_of_Payment

Item_Detail:

Field Name
ItemCode
Particulars
Rate
ItemDetail

Room_Detail:

Field Name
Room_No
Rom_Type
Floor
Room_Rate
Room_Description
Occupancy
Guest_Folio_ID
Accomodation

Currency:

Field Name
Currency
Unit
Buying_Price
Selling_Price

4.3 Controls Used

The Textbox Control:

The textbox control is the primary mechanism for displaying and entering text and is one of the most common elements of the windows user interface. The textbox control is a small text editor that provides all the basic text-editing facilities: inserting and selecting text, scrolling the text if it doesn't fit in the control's area, and even exchanging text with other applications through the Clipboard.

The Textbox is an extremely versatile data entry tool that can be used for entering a single line of text, such as number or a password, or for entering simple text files.

Basic Properties

MultiLine

This property determines whether the Textbox control will hold a single line or multiple lines of text. By default, the control holds a single line of text. To change this behavior, set the Multi line property true.

MaxLength

This property determines the number of characters the TextBox control will accept. Its default value is zero, which means the text may be of any length, up to the controls capacity limit. To restrict the number of characters the user can type, set the value of this property accordingly.

Combo Box Control:

The Combo Box controls present lists of choices from which the user can select one or more. It contains multiple items but occupies less space on the screen. The real advantage of Combo Box Control is that the user can enter new information in the Combo Box, rather than being forced to select only the items listed.

The properties that can be set at run time are given below.

Multi select:

This property determines how the user can select the list's items and must be set at design time, the Multi Select property's values determines whether the user can select multiple items and which method will be used for multiple selections.

The Multi Select Property values are shown below

SETTING	DESCRIPTION
0	Multiple selections are not allowed (the default).
1	Simple multiple selection. A mouse click or pressing the space bar selects or deselects an item in the list. To move the focus to another item, use the arrow keys.
2	Extended multiple selections. Press shift and click the mouse or press on the arrow keys to span the selection. This will highlight all the items between the previously selected item and the current selection. Press Ctrl and click the mouse to select or deselect an item in the list

Sorted:

Items can be inserted by the application into a Combo Box control, but inserting them at the proper place and maintaining some sort of organization would be the quite task for the programmer. If you want the items to be always sorted, set controls sorted property true.

Style:

This property can be set only at a design time, this property determines the appearance of a control. Its value can be 0(Standard) or 1(Checkbox).

MSFlexgrid Control:

The MSFlexgrid Control provides all the functionality for building spreadsheet applications and it doesn't support data entry operations, but by capturing the keyboard events, you can easily add data-entry capabilities to the control.

The important properties of MSFlexgrid Control are

FixedCols, FixedRows properties:

You should assign the desired value such as 1, 2, 3…. To select the fixed column and fixed row if you select 1 for fixed row then one row will be fixed and same for fixed column.

FormatString Property:

This property can be assigned a string variable that sets up control's column width, alignments, and fixed row and column text. This property is made up of segments separated by pipe characters (/). The text between two pipes defines a new column or row, and it can contain text and the alignment characters shown below:

The Character	What it does
< ^ >	Left-aligns the column Centers the column Right-aligns the column

AllowUserResizing:

The user can change the width of columns and heights of rows at run time by dragging the column and row separators with the mouse.

The values of the AllowUserResizing Property are:

Constant	Value	Description
FlexResizeNone	0	The user can't resize the cells (the default).
FlexResizeColumns	1	The user can resize columns only.
FlexResizeRows	2	The user can resize rows only.
FlexResizeBoth	3	The user can resize columns and rows.

DataControl:

This is most importantly used control in this project. This control is used to fetch data from database in the run time. With the data control you can navigate through the table's records with the Data Control, you can also edit the fields.

The most important properties of the Data Control are:

- DatabaseName: which specifies the database to be used.
- RecordSource: which specifies the part of database seen by the control.

At any given time, the Data control is positioned at a single row (record) of its RecordSet. The user can move to any other record with the help of the navigation buttons on the Data control. Each time the Data control is repositioned in its RecordSet, the text boxes are updated. If the data in a text box changes, the new value is written to the database when the Data control is repositioned.

The TextBox controls are connected to a field of the RecordSet through the Data Control, and they are called data-bound.

The most important properties of a data-bound control are:

- DataSource: - which is the name of a DataControl through which they are bound to a Data control
- DataField: - which is the name of a field in the RecordSet that the control displays and updates.

The Multiple Document Interface

The Multiple Document Interface simply known as MDI is used to simplify the exchange of information among documents, all under the same roof. With an MDI application, you can maintain multiple open windows, but not multiple copies of the application. Data exchange is easier when you can view and compare many documents simultaneously.

In project MDI form is used as the gateway therefore other forms are set its properties as child form.

Label

In this project label has been used to denote the controls and it has also been used to pass the variable in various controls.

4.4 Modules of the System

Beyond the processes in HOTELIER listed above, there are also additional modules that can be used by front officer, Cashier or Inventory.

The additional modules:

Calendar

All the events and process based on Date are based on AD Nepali Calendar based on BS. So an appropriate conversion is necessary. To maintain this, the Nepali Date corresponding to particular English (AD) date can be extracted out. One database table maintains this feature. So one can easily view either

calendar of a particular month of particular year one can also directly view the corresponding English date of particular Nepali or vice versa.

Foreign Currency Exchange

Although the monetary transactions are in Nepalese Currency, most of the guest (foreigner) would like to pay in foreign currency convertible to NRs. So currency exchange plays an important role for cashier. Since the currency rate can vary every day, the exchange rate can be updated.

4.5 Technical aspect of Implementation Phase

Approach taken for the study and development of the project

For the implementation of the project overall planning was done in the very beginning of the project. The list below shows the plan, which is a standard life cycle model for data intensive systems. Different stages involved the completion of the project is as follows:

Requirement analysis and problem definition

In this phase major information for the project was collected from the different Hotels accessible to us. The result was a list of documents and information divided into functional and non-functional, which are mandatory and optional.

Feasibility Analysis

In this feasibility analysis, information required was studied. System objective and scope were defined and system requirement was listed. Technical requirements like hardware and software were also listed.

DFD-ER Analysis

After determining the requirement, DFD (Data Flow Diagram) and ER (Entity Relationship) model has to be produced. This will help in analysis and later system development.

System Design Phase

In this phase logical database was designed in MS Access.

User Interface Prototyping

This is a user interface prototyping phase. In this phase we designed forms in paper and tried to make it as user friendly as possible.

User Interface Implementation

In this phase front end of the system was developed using the rapid application development tool Microsoft Visual Basic 6.0

Coding Phase

In this phase the coding of the system was done using the language Visual Basic 6.0

System Integration and Testing

In this phase we invited the various person and allow them to run our program and according to their comment we reviewed our program, and tried to make more user friendly and more efficient.

Final Report Presentation

This report is being prepared in this phase.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

First of all, it has been a great importance doing this project. Starting for the simple record, searching module, we have reached the end of project. As we have been used prototype models to develop our system, we have learnt that we must make a good system design before we implement the design.

However, we can say that the project has been a success but there are still some factors due to which there is doubt whether we have met the expectation level of performance. It may be because of the lack of technical expertise the project has not turned out the way, it was expected of. There are still assumptions have to be made like database dumped in annual basis to implement the system real life. With some more time the system can be made to function properly. The necessary background work has been done on the system. So, a little more effort will most probably make the project implementable.

5.2 Recommendations

The major problem we faced while doing the project was because of the differential approaches taken by Hotels to maintain their accounts and information and the inadequate data provided. Whereas our major effort was to develop a generic system for them so as to cover most of the Hotel Management System.

Another problem we have faced during the implementation of system database was Night Auditing and annual dumping of records, Accounting Departments and other departments of the Hotel since they are the basic requirements for a Hotel Management System. Since this requires a detail study perfect knowledge of accounting and adequate knowledge of all the processes of the vast Hotel system, we couldn't implement them all due to the limitations of the time factor. More time and detail study can solve this problem.

Another important area, to be considered and of our great interest was the Networking. Again we have to bring forward the reasons of limitations. But as a whole, the networking is the must to implement the software in different departments.

The project was done in the partial fulfillment of the 2nd Year 2nd Semester Project Course of Computer Engineering, Kathmandu University and not as the authority governing the University or any other initiation has sanctioned that. Apart from this regular suggestion and comments of our supervisor were helpful for us to complete this project.

Important of all, we really think should be concentrated upon is in the system design phase and detail study of the system. We reviewed the design phase various times on the data available to us according to the suggestion of our

instructor. Design phase leads the project that is reliable or, not small mistake is design phase gives the big problem in the implementation phase. So, we think the system design phase needs very keen attention and the systems properly checked before preceding any further. And another area to be concentrated is the front-end implementation; from-end design leads the easiness of the project towards handling. During the design we should contact with the general user (which we couldn't do due to lack of such personals).

APPENDIX

ACRONYMS USED

DAO – Data Access Object
ER – Entity Relation
DBMS – Database Management System
MDI – Multiple Document Interface
SQL – Structured Query Language
MS – Microsoft
OLE – Object Linking and Embedding

LIST OF FIGURES

Fig 1: Splash Screen

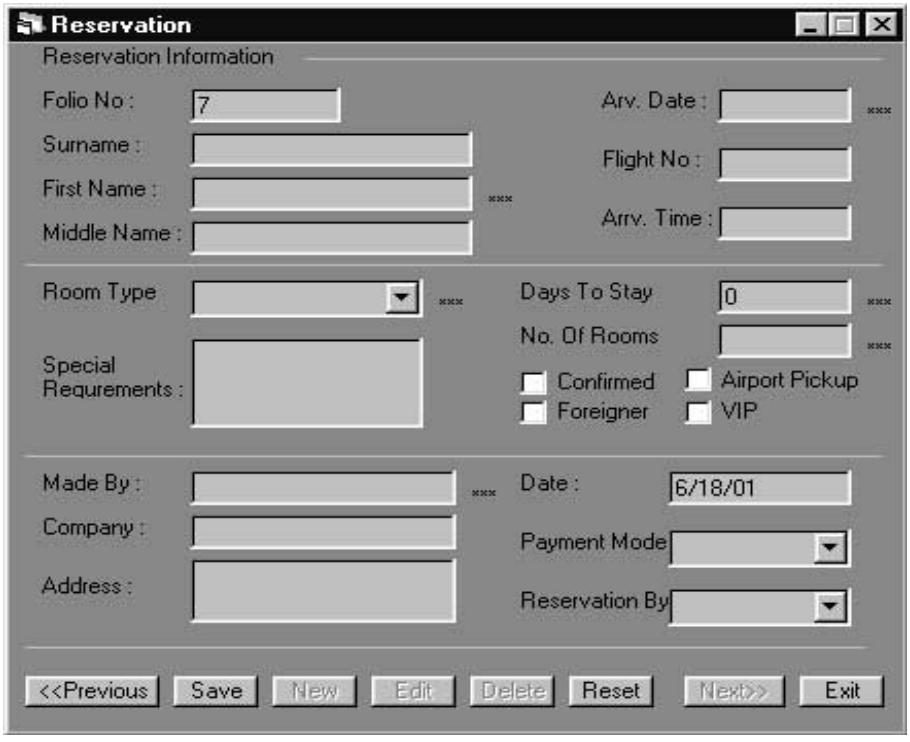


Fig 2: Reservation Form

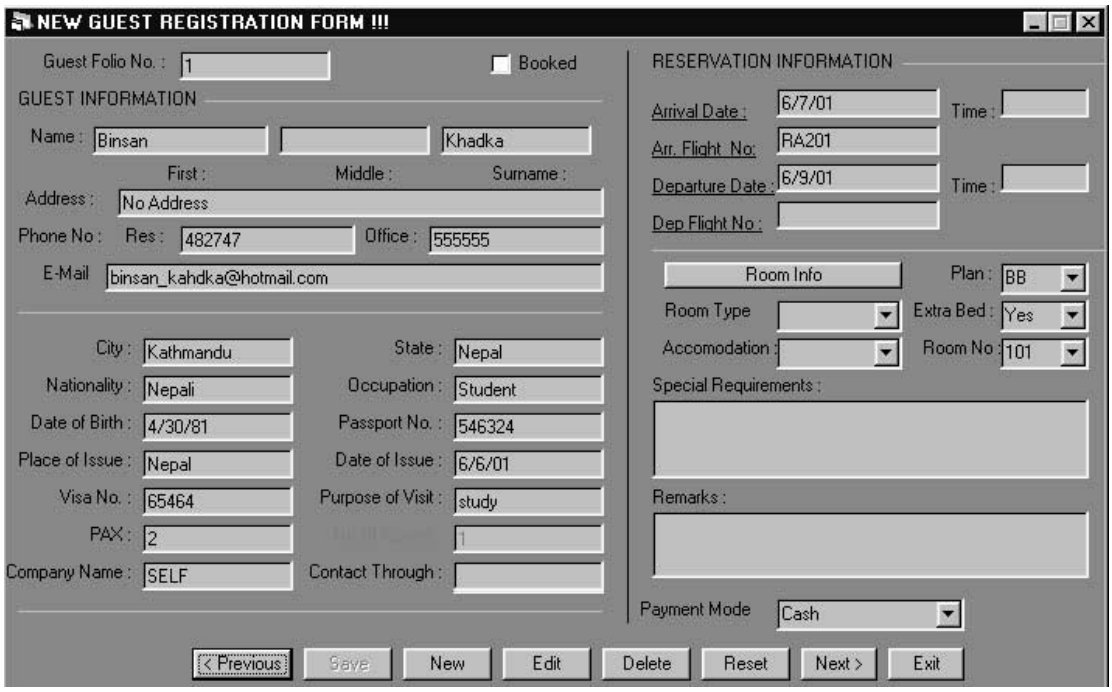


Fig 3: Guest Registration Form

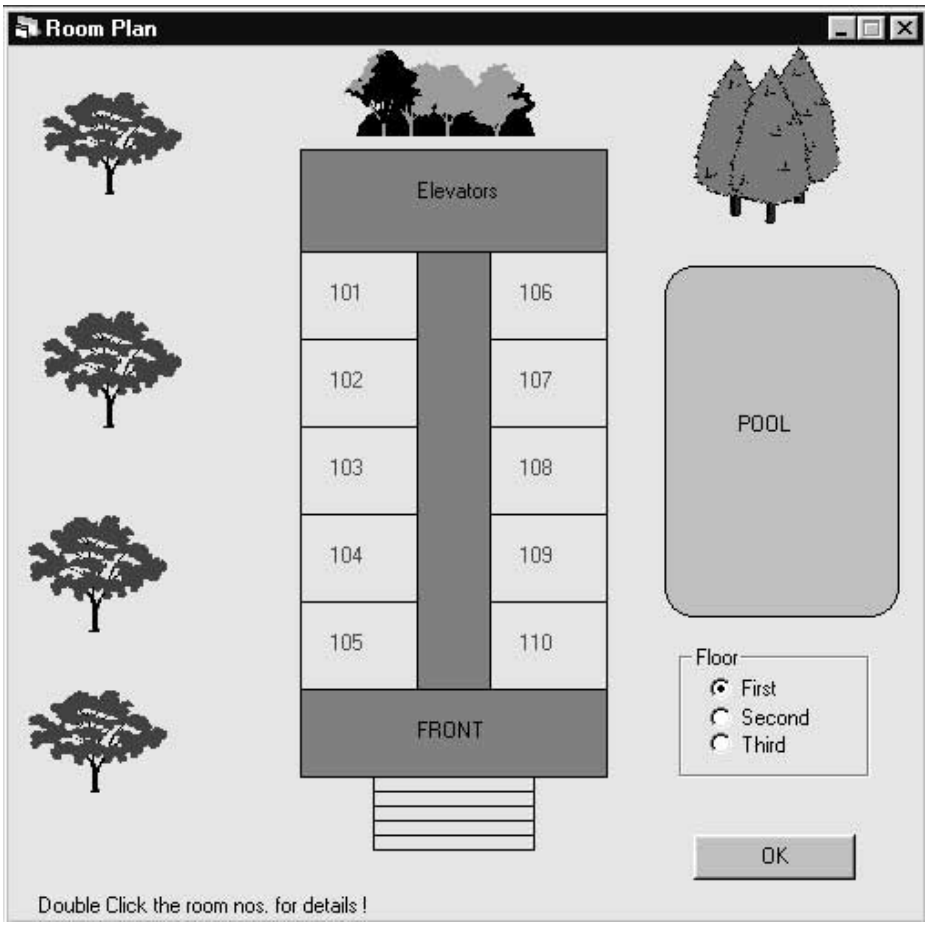
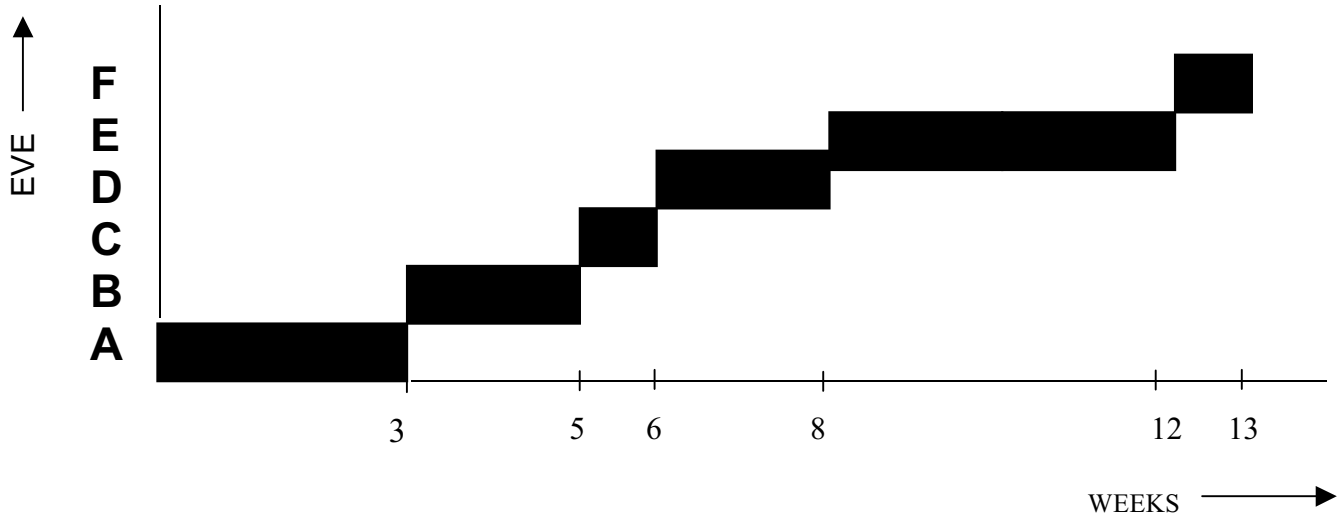


Fig 4: Room Info

Fig 5: Message

Gantt Chart



A	**Research and Information Gathering**
B	**Determining Entities, Fields, Tables and Records**
C	**E-R Analysis**
D	**System Design**
E	**Coding**
F	**Final Software Presentation**

COST ESTIMATION

S.No	Particulars	Total
1	Man Power (5*13*1000)	65000
2	Floppy Disk (25* 30)	750
3	Report	600
4	Miscellaneous	1500
	Total	67850

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