COMPUTERIZATION

OF

HOTEL MANAGEMENT AND SYSTEM

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FINAL APPROVAL

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DECLARATION

We declare that this software, neither as a whole nor apart has been copied from any other service. It is further declared that we have completed our project of Post Graduate Diploma of computer Sciences successfully as a result of our struggle and research.

No portion of the whole work which presented in this report has been submitted in support of any application for any other degree or qualification of his or any other university or Institute of learning. If any part of the project and write up is proved to be copied or there is any duplication of code then we will responsible for the consequences.

Rabia Liaquat

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DEDICATION

To our beloved parents

ABSTRACT

In Hotel Management System, it is very difficult to retrieve some specific information manually. To handle all the records of incoming or outgoing guests, daily visitor and other information relating to other sections of hotel, manually.

But by computerization of the whole system, it is very easy to create the data storage and the manipulation of the data in the storage system. So, it becomes quite convenient for anyone to have the information that he required, by using the computer based system.

PROJECT BRIEF

Project Title	Hotel Management and System
Objective	To Computerize the Hotel Management System
Organization	Management of Hotel
Project Venue	Computer Center Q. A. U., Islamabad
Undertaken By	Rabia and Shazia
Supervised By	Mr. Javed Hussain
Started Month	July 10, 2003
Ending Month	November 04, 2003
Language	PLS / SQL 7
Operating System	Windows 98
Used System	Pentium III (Ram 128)

PREFACE

Media and information technology are of utmost importance in the present era, the remarkable advancements and discoveries in the computer technology have contributed a lot towards the progress of these two in past decades.

Computer is becoming the need of almost all organizations for data processing system in this stage. What awesome about the computer is its ability to store fantastically large amount of information, to retrieve data in exceedingly short time and to perform a large number of calculations with complete accuracy.

The dissertation under consideration deals with HOTEL MANAGEMENT SYSTEM. It comprises of six chapters, a brief overview of these chapters is as follow:

Chapter 1: Provides a general an introduction to the system.

Chapter 2: provides an introduction of hotel management system a birds eye view of the project including its scope of study and major aims and objectives.

Chapter 3: Is about the system development including to selection, testing implementation.

Chapter 4: Explains the details the system design including input/output, code and files design.

Chapter 5: It is about the system design, which include system data base design, the explanation and the properties of Erwin diagram.

Chapter 6: Enlightens the user guide. A comprehensive users's guide is given in this chapter.

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CHAPTER 1

INTRODUCTION

TO

SOFTWARE

Chapter 1

INTRODUCTION TO SOFTWARE

1.1 Introduction:

Computer has brought a revolution in the developing modern era. It has set several new milestones for human beings to achieve. Among the various fields connected to computer, the most fruitful and the value one is software development. It has given the idea of automation and computerization to common man e.g. if we look in the market, several organizations use computer based software for various purposes like management, testing and analysis.

The understudy software has been developed, keeping in mind, the requirements of hotel management system Previously, it had been a difficult, time consuming and undependable manual system which caused problems like corruption etc.

This new system provides relief to both management and the data entry operator. Now management enjoys full confidence in staff members and the staff members are much more confidential.

In manual system, the data entry operators or clerks had to keep registers and enter data in those and had to keep those safe and out of reach of irrelevant personnel. Now, the operator only needs to make an entry in the software and the rest is done by the software itself.

Management does not need to approach the operator for details of each but they just had to press a key to see the cash balances etc.

All the above qualities make the software perfect and much needed and awaited for the related organization.

CHAPTER 2

HOTEL

MANAGEMENT SYSTEM

Chapter 2

HOTEL MANAGEMENT SYSTEM

Objective:

As the other organization has an overriding goal that focuses and directs its actions, so does the hotels has the objective to earn profit more and more by providing efficient and best services to its customers.

Main Departments:

- Front Office Department
- Food and Beverages Department
- Sales Department
- Personnel Department
- House Keeping Department
- Finance and Accounts Department
- Kitchen Department
- Engineering Department

2.1 FRONT OFFICE DEPARTMENT

Sub-departments are:

2.1.1 Reservation Section.

2.1.2 Reception Section.

2.1.3 Concierge Section.

2.1.4 Exchange Section. Cashier.

Objective:

The objective of Front Office Section is to efficiently and profitably controls the flow of guests into and out of the hotels, while enabling guests to make plans an advance and to be assured of a room on their arrival at a particular hotel.

The hotel, on the other hand, is concerned with selling as many rooms as possible each day in order to maintain its profitability, to achieve its objective of profitability, efficiency and guests satisfaction, the hotels executive office must have effective procedures and s stem in place to handle guest reservation.

2.1.1 RESERVATION SECTION:

This sections works greatly affect the business of the boatels and its general outlook.

Reservation Procedure:

It does not matter how the request for a reservation is made, the procedure will remain the same. These reservations requests are generally received and processed at the reservation counter.

At the time of reservation, receptionist first checks the vacant rooms availability for the required period, if a room is available he accepts the reservation request and made the reservation provisionally and then through a provisional reservation slips he informs the requester about the reservation whether accepted or rejected.

If reservation is provisionally confirmed then requester has to confirm his reservation request within 24 hours.

The reservation officer also tells the requester about room rent and asks about the mode of payment whether cash/company account charge/credit card/travelers cherub.

The officer also asks about the reservation made by either self or some one else then its name and contact telephone number is taken.

For the VIP's, some special rooms are blocked.

2.1.2 Reception Section:

Reception section contains three main procedures:

Registration procedure.

Amendment procedure.

Cancellation procedure.

Registration Procedure:

When a guest arrives, he is offered available rooms for accommodation and the information about the room is also provided, then room registration form is filled. Foreigner's guests have to fill room registration form along with form d for special purposes. The form consists of following fields:

Name of Hotel	Month
Serial no	Name
Address/contact no	Profession
N-I-D card no	Nationality
Purpose of visit	Passport no
Coming from	Date and place of issue
Date of arrival and time	Date of departure and time
Visa/immigration registration no	Next destination

Mode of Payment:

There are no reservation charges. If rooms are vacant all reservations are confirmed otherwise they are kept provisional and the guest is requested to keep contact and on availability will be informed.

There is a separate registration for each room. This card has a serial no, which shows the no of bills paid to hotel. Each year this serial no. Is initialized.

Group of Tour Reservation:

Tour is the name given to a booking made by a travel agent for a number of peoples at one time. All the payment is on travel's agent account in a group or crew, there are more than 10 guests representing any company and payment is on company's account.

In this case at a time of reservation only one reservation card is filled but at time of check in, separate registration cards are filled for each room.

Check In:

Guest arrival in hotel is called check in. At that time the guest fills registration card, which is same for both walk-in and check in.

Density Chart:

It is used to record all advance bookings plus all in house guests. In a density chart rooms are classified into groups of similar types; no allocation of specific room is made until the guest arrives at the hotel. This chart shows the room status per day and with the help of this chart advance booking is done. Room allocation:

After filling registration card, room no. is allotted. There is a rack for all the rooms having room's no., written on it. For each floor there is a separate shelf.

If guest not reached in expected date then room will be reserved after the registration, rack slip is prepared which is placed in particular slot. This slip has information about guest staying in a room.

Early Departure:

All guests staying in hotel are called in house guests. Guest stay can shortened or extended according to his program.

In this case density chart is modified. As no show ratio is 0% to 10% per day or more depending upon season. 20% overbooking is taken.

Over Booking:

It is a process of accepting more reservation than vacancies available to compensate for early departures or last minute cancellations of non-arrivals.

Extension:

In this case, first of all vacancy of room is checked if available only then the guest can extend his stay. So density chart is modified.

No-show:

If guest not reached in expected date then his room will be reserved till no show time i.e.; 6.00 P.M. and after that reservation will be canceled and his record is kept in no-show file.

Types of rates:

Here are two types of rates called rack rates ~(norma1) and discounted rates.

Discounted (corporate) rates vary for different organizations i.e.; Government organization, private organization, ~groups and companies registered while the normal rates are fixed rates.

Corporate Rates:

They vary from company to company depending upon business, which they provide to hotel.

For corporate rates at least 150 nights should be reserved for one year. If company gives good business, hotel will reduce the charges.

At end of year, corporate rate companies records are checked, if any company is found to have reservation less than required room nights, a notice is sent to that company to complete its period within two months period otherwise company will no more be on corporate rates.

Room Types:

Following types of rooms are available.

- Single Room
- Double Room
- Mezzanine Executive
- Suites

Checkout:

When a guest leaves or checkout there is a no of tasks to performs, which are:

First his record is taken out from the room rack. The rack slip is removed from room record is kept in history card, which are used-to record details of each individual stay by the company or guest.

If guest after checkout claims something about rates or room or any other thing then guest history card is searched and all the information can be retrieved.

Amendment Procedure:

If amendment is made in the arrival date or departure date then reservation form and check sheet are also updated.

Cancellation Procedure:

First reservation is searched and then canceled and removed form the reservation rack and the record are kept in cancellation file, the name of the person who did the cancellation is also included. Booking is erased from the density chart; there are different rates of cancellation charges, which are.

Time	Deductions
More than 72 hours	5%
More than 48 hours	20%
More than 24 hours	50%
Less than 24 hours	100%

2.1.3 Concierge Section:

Objective:

Objective of this section is to provide efficient services to then customers for taking their luggage in and out of their rooms and also serving food for eating to its customers.

Employees:

The employees in this section include waiters, bellboy, bell captain, stewards etc.

2.1.4 Exchange Section:

The objective of this section is multifold. This exchange include telephone, fax, telegram, telex exchange. This exchange receives requests for reservations, their amendments, their cancellations etc. On the other hand it also provides services to guests for sending their messages to some other places through telephone, fax etc. It also keeps records of these services, which are to be paid through cash from the particular guest at the time of check out.

2.1.5 Cashier Section:

This section includes front office cashier, food & beverages cashier different to the accounts departments cashier. These cashiers perform their duties by collecting cash through payments or through credit card or through visa card.

2.2 FOODS AND BEVERAGES DEPARTMENT:

Objective:

It's the backbone of a hotel. The objective is to provide the guests totally hygienic food and to maintain standards of quality and quantity.

Another objective is to provide maximum sales in this regard. For this purpose they provide various facilities and discounts.

Its main sections are:

2.2.1 Services section.

2.2.2 F & b kitchen section.

2.2.3 Steward section.

2.2.1 Services Section:

Services section includes further two departments.

Banquets Section:

This department deals with booking of halls i.e. Conference hall, marriage hall and also for different functions, banquet has two managers which are:

- **Operation banquet manager.**
- **Banq-Lsa1-es-manager.**

- **Operation Banquet Manager:**

Which is concerned to layouts and setups of the functions and its coordination with other departments?

- **Banquet Sales Manager:**

Which is concerned with sales of different2arties i.e. They arrange cost, profit and overheads removal so that maximum sales can be achieved.

Banquet Functioning Procedure:

Banquet is mainly concerned with functions layouts and setups and its coordination with other departments and also with sales of different parties so that maximum sales can be achieved.

For this purpose a banquet register is maintained having following fields.

Date of booking	Address
Host	Office the no
Tph no	Function
Time of function	Guests guaranteed
Guests expected	Advanced amount
Remarks	Reserved ball no

Procedure of Booking:

First of all reservation request is made and so a reservation slip is filled up which contains information about the function details and its booking. This reservation is taken firstly tentative which after seeing the availability is made confirmed and the customer is informed about this.

The fields of reservation slip are:

Name	**Address**
Tph no.	Room/hall
Guests guaranteed	Serial no
Date	Remarks
Reservation taken	

This reservation form is filled up in triplicate, original is sent to F & B kitchen, duplicate to front office, triplicate is kept in the f & b department.

After that the customer is asked to negotiate about the menu and function rates. After this procedure banquet register is maintained i.e. Booking is made in the banquet register. In case of confirmed booking *50%* amount is taken in advance.

If after checking for availability there is no hall vacant then the banquet manager suggests alternatives about future availability i.e. to arrange the function in the next available day otherwise the services for arranging the function in another hotel are provided.

At the end a function sheet is prepared which contains all information about the function and it is then dispatched to all sections and departments.

All departments can take booking requests for the function.

Food and beverages department also provides services for arranging the function outside the hotel. The rest of the procedures about booking and arrangement remain the same.

Restaurant:

Restaurant is headed by restaurant manager and different mini restaurant like bar-b-q, pizza corner, Pakistani, Chinese Italian restaurants etc. Are run under its control.

Banquet has two managers, which are:

Restaurant functioning procedure:

Restaurant is mainly concerned with providing food to its customers whether they are in-house guests or walk-in's or they may be employees. It also provides facilities like room service to its in house guests. For this purpose they had waiters to serve guests in the restaurant or in the rook.

When a guest arrives he is allotted a table and presented a menu to select food items, which are served accordingly. The waiter informs the f & b

cashier about items served who intern prepares the bill having details like guest name room no date, time, items unit price, total price including i.e. tax.

For in-house guests the cashier enters these details in the guest checkout record, which has to be aid at the time of checkout. The bill is prepared in duplicate by the cashier who is signed by the guest and one is given to the guest while the other is kept for the future by the cashier, which is then sent to the along with different reports, which were taken out at night.

Incase the guest pays the amount in cash then the amount is not entered in his checkout amount. Restaurant also provides complimentary breakfast free to its VIP's guest.

Amendment Procedure:

Amendments can be made before 48 hours and for this there is no charging. But for time lesser than 48 hours full payment has to be made.

In case of amendment, a new function sheet is prepared and sent to all departments. Departments and banquet register is updated also.

Cancellation Procedure:

Cancellation can be made before a week but after than there is a penalty for this i.e., Full payment is charged.

In case of cancellation again banquet register is updated.

Billing Procedure:

It is the full responsibility of the f & b department. At the end of function, the function in charge or cashier collects the rest of the money.

In case of payments on credit, a bill is issued to the company's account etc. To give the money within three days.

In case of death no charging is done.

Reports:

No reports are sent, sheet except the function to all departments.

Billing:

It is the full responsibility of F & B department.

At the end of function, there is a function in charge or cashier who collects the rest of money.

Bill can be paid within two different ways:

- Payment on cast.
- Payment on credits.

Credits cards and Visa cards are acceptable incase that the mode of payment is a company or any organization a bill is dispatched to that particular company or organization.

2.3 HOUSE KEEPING DEPARTMENT:

Objective:

House keeping is such an organization in which guests are accommodated and also keeping a close correlation to all other departments in the Hotel.

Description:

House Keeping Department is just like a small country, which looks for the guest arrivals and their departures and also providing them services such as accommodation, security etc. it is the department which is very much closely related to the guests and it makes a very deep impression about the hotel on the guests, so this department keeps care of all those things and helps in improving the business of the hotel.

So in short the house keeping department is just like country to host confinement.

Function:

The following function is performed by the House Keeping Department.

It looks for the guests needs i.e. their requirements.

Provides best environment to the guests.

Maintains the rooms i.e., its cleanliness, paint and other decoration.

Checks for out of order things.

Counts the number of guests in the hotel and the number of rooms vacant, occupied, also informs the Front Office Department.

Informs Engineering Department about out of order mechanical items.

Informs and requests the Store Department to provide new items required to decorate the rooms.

Room count Sheet:

It sent to Front Office Department.

Counts all the vacant, Occupied, not ready and ready rooms.

Rooms are counted three limes a day i.e. 9.00 AM, 8.00 P.M. and 10.00 P.M. (Daily occupancy Report is also issued).

Requisition Slip:

When the HK Department needs certain things, such as to decorate the rooms, replace items and also for its department use, it sends a requisition to the Store Department for that particular item or items, are issued.

Maintenance slip it is sent to the Engineering Department by the HK manager along with the detail of the items.

2.4 PERSONNEL DEPARTMENT

2.4.1 Objective :

In any institution the whole system depends upon Personnel Department . Its objective is to maintain security and discipline.

2.4.2 Explanation:

There are two sections, which work under it . Personnel Manager heads this department. The sections are :

Administration Section:

Its main objective is to maintain discipline. The main functions of this department are:

Enrollment of best and efficient people for the different jobs.

Discipline maintenance such as attendance of the staff, their appearance and their behavior to other people and preparation of relevant documents of the staff etc.

It also takes care of the employee leave and old age benefits such as pension paper preparation.

In hotels normally 7% of the basic pay is paid for social security and as old age benefit is paid for the individual also insurance of the particular individual is made.

Enrollment of New Staff:

The enrollment of new staff is made for the particular job on qualification and experience.

The newly enrolled staff is entitled for first three months on probation period. If during this period be/she works satisfactorily then he/she is made permanent employee.

Discipline Maintenance:

This section takes care of the discipline maintenance in the hotel it looks that whether the hotel employees are doing their jobs properly. If also takes care of their behavior to the guests and other colleagues. It also checks that all hotel employees are well dressed?

Leave Criteria:

For this leave form is filled and is put forward to the concern department head for sanction, which is then sent to time office for record. It also looks for their total annual leaves such as medical leave and casual leave

and maintains their proper record. In case of medical leave social security is provided which is also entered to their family.

Pension Criteria:

Normally allowed service is up to sixty years of age. But pension monthly is also provided to those who have served for at least five years in hotel.

Annual Confidential Report (ACR):

There are certain rules for the ACR. But three standards *i.e.* Good, Best and Bad. They are considered for the promotion to grade and other different allowances and bonuses.

Since the management provides extra allowances and bonuses (At the end of year) in order to encourage the hardworking, efficient and regular on bob employees so they are given these benefits. Bight allowance is given to those employees who serve at night. So for this matter ACR depends a lot on the employee's status.

Security System:

A very important section in any instruction and organization, so that the people in that organization should feel safe and sound and they can work whole heatedly.

In hotel this section takes care of the matters of their employees work and security and for the purpose of guests safety. The security manager heads this section.

Time Office:

This is another very important section in the personnel department, which is mainly concerned with the hotel employees.

I take care of the following functions:

- **Employee's working hours.**
- **Employee's duty chart.**
- **Employee's leave.**
- **Employee &-s-overtime.**
- **Employee's shift schedule.**
- **Transport vehicle in/out.**

First the employee's duty chart is prepared for the work in three shifts schedule.

There are eight working hour in each shift. The shift starts from 7.00 A.M. to 3.00 P.M., 3.00 P.M. to 11.00 P.M. and 11.00 P.M. to 7.00 A.M. There are eight workib7g ours excluding one hour for taking meals and preparation for taking job from previous shift.

Time office also takes care of the working hours i.e. when a particular employee has come for the job so its in time and out time are noted in the duty chart.

Since the employee is paid on the hourly basis. If a particular employee wants to go outside due to certain causality or emergency then he has to sanction leave passed from the representative department head, which he has to hand over to the time office. Only then he is allowed to leave.

Time office also keeps record of a particular employee's casual leave and earned leaves above them he is not allowed to get leaves. It also takes care of the particular employee's overtime. At the end of the month the complete duty record is given to the ac for the preparation of the salary slips.

In case of absence of employee, time office also keeps record about that. When the duty chart is prepared few people duties are made on stand by basis, so that in case of absence or early leave or due to emergency that person can do the particular ob.

2.5 ENGINEERING DEPARTMENT:

2.5.1 Objectives:

The objective of this department is to provide mechanical , electrical and civil facilities to the management. Its main objective is production , development and maintenance of the equipment in the hotel.

2.5.2 Explanation:

This department is headed by chief engineer . As described above the main purpose is to maintain, develop and produce the equipment, which is to be used in the hotel.

In the case of equipment or component is damaged then a maintenance slip is prepared in which the type of fault, place of fault and the concerned department is mentioned. This slip is signed by the respective department lead and sent to the engineering department . The engineering department checks the faults. If it is removable then removes it otherwise it replaces the respective equipment and informs about the fault maintenance to the respective department.

The main function of this department are:

To look after the engineering equipment such as A .C's , Fans, Heaters, Hooks , Doors and Glass windows etc.

To provide services on request to the particular department as soon as possible.

To replace the faulty equipment and install he new one.

To provide services for whitewashing the particular rooms or any place in the hotel.

The engineering department gets its equipment from the store section in the hotel by sending the issues requisitions duly signed by the chief engineer and supervisor. This requisition is signed in triplicate. One is kept in this department another is sent to store while last one is sent to the accounts office.

CHAPTER 3

SOFTWARE DEVELOPMENT AND IMPLEMENTATION

Chapter 3

SOFTWARE DEVELOPMENT AND IMPLEMENTATION

3.1 Introduction:

After software design phase is completed, the development phase starts. The system to be developed should be according to proposed system and design specifications. The purpose of the development phase is to transform design into executable computerized software, which may then be tested and implemented as a new system. For software development it is necessary to identify functional requirements of the system. In the development process the basic and very important step is the selection of a programming language (Tool).

This system of hotel management is developed in Oracle 7.0 developer 2000, using forms builder.

3.2 Why Oracle:

Oracle is chosen as a development tool, because it was the requirement of the organization to use Oracle for the development of Hotel Management System.

3.3 Features of Oracle:

Oracle provides many features to develop database systems, some of them are given below:

- Good security.
- Facility of taking backups.
- Provides powerful procedural language known as PL/SQL.
- Very strong on line help.
- Oracle RDBMS is portable on most of the hardware and software.
- Provides a number of sophisticated development tools (include) system implementation p.3 6.

3.4 Testing:

System testing in the process of executing a program with the explicit intention of finding errors, i.e., making the program fail and the test cases are prepared with this purpose in mind. A test case is a set of data that the system process as normal input. A successful test is one that finds errors. Every effort has been made to make sure that system does not fail under any condition. Following kinds of tests were performed on the system.

3.4.1 Unit Test:

Each individual model was tested to determine whether it meets all specification. In this test all blocks were tested by running them individually.

3.4.2 Integration Test:

After successful unit level testing, all integrated modules were tested together to ensure that interfaces such as calling sequences and common data areas are all arranged correctly. All inter related blocks and forms were tested together to ensure that data movements along the corresponding paths are correct.

3.4.3 System Test:

To perform system test, whole system was tested to ensure that it works according to its specification. All the forms were tested whether in this test. The test results also gave an indication of the software quality and system design, which in turn helped in locating errors, which required design modification.

3.5 Implementation:

It is the process of replacing the old system with the new system. It is the activity of getting the developed system operational. There are three different methods for performing system implementation and ensuring proper working of the system:

- Direct Approach.
- Parallel approach.
- Pilot Approach.

Parallel Approach:

In this approach, both the old and new system, run side by side. It means that the user continues to use the old system, while he is learning to operate the new system. This is the safest approach, since incase of failure, user can immediately turn back to the old system, without any wastage of time and data. This approach is recommended.

3.6 SYSTEM EVALUATION:

Another activity to judge whether the developed system has meet the desired objectives of the proposed system, which are set in the system description is called system evaluation. The system description is reviewed and evaluated with respect to its completion and efficiency. It also suggests future enhancements in the developed system.

Merits:

Major features of the developed system are:

Accuracy:

By accuracy we mean that the inputs are sufficiently precise for their desired output. This new system is accurate because during data entry several data validation cheeks are provided. However, there is small probability of

incorrect data in non transaction files as a user might input wrong spellings and wrong figures.

Efficiency:

The new system is efficient as there are well organized databases of which different screens are prepared with validation checks so that the program fulfill the requirement the Hotel Management. The program is prepared in windows 98 environment and some utilities are chosen from it to increase the efficiency of the program. The access to information is very fast and this program is user friendly.

Modularity:

The system is divided into a number of modules integrated together to fulfill user's requirements. These modules are independent of each other. Another major advantage of modularity is the ease of modification and extension of the developed system.

Easy to Use:

The developed system is menu driven. Help is provided at every possible point. Data entry, updation and deletion are all provided on a single screen. During data entry, the user can toggle, between almost all fields.

Consistency:

Uniform notations within the system are used to ensure that program contents make its purpose clear to other programs.

Security:

In the system, entry can only be made by giving correct user password. A password is also required for global deletion. During data entry of key fields the user remain on that field until the correct figure or code is entered. This makes the system protective from unauthorized user.

Conclusion:

In the end, we would like to say that developing this system was an interesting experience, from practical point of view. We learnt a lot during this, because it was not just based on assumptions, but on actual work. The information was collected, by conducting all the phases of the System Life Cycle, at the Hotel Akbar International, Rawalpindi. We hope that with the development of this system some, if not all problems of HOTELS will be solved.

Future Enhancement:

Although the system has been developed according to requirements of organization but it can be expanded in future according to need of organization.

The expected enhancement in near future is to integrate with the existing network system of the organization.

CHAPTER 4

STRUCTURE OF DATA BASE

Chapter 4

STRUCTURE OF DATABASE FILES

Salaries of Employees:

In this section six table are working the description of each table; given below.

1) **JOB:**

Primary Key >> Job_ID

Description:

This file describes the Job_ID means that what is the nature of job e.g. Manage, water etc.

Field	Description	Type	Width
Job_ID	Job_ID	Character	8
Des	Description	Varchar	16

2) **EMPLOYEE:**

P.K >> Emp_ID

Foreign Key >> Job_ID

Description:

This file describes the information of employee like name and address etc. and also describes the job of employee. Emp_ID describes that, that the nature of employee.

Field	Description	Type	Width
Emp_ID	Employee Identification	Character	8
Job_ID	Job Identification	Character	8
Name	Name	Character	30
Address	Address	Character	40
Tele No.	Tele No.	Number	18
Dt_Join	Date_Join	Date	
Father's Name	Father's Name	Character	20
Id_Card	Id_Card	Character	

3) OVERTIME DAY:

P.K >> Emp_ID, Month

P.K >> Emp_ID, Month, Job_ID

Description:

This file describes the overtime_payment given to the employees. This file calculate the overtime rate, check the hours worked and then calculate the overtime amount.

Field	Description	Type	Width
Emp_ID	Employee Identification	Character	8
Month	Month	Character	18
Job_ID	Job Identification	Character	8

Ovt_Rate	Overtime_Rate	Number	(6,2)
HRS_worked	Hours worked	Character	(4,2)
Ovt_Amt	Overtime Amount	Character	(6,2)

4) SALARY:

P.K >> Emp_ID, Month

P.K >> Emp_ID, Month, Job_ID

Description:

This file calculates the salaries of employees. It takes the employee information, month information and job information from respective files. It calculates the net pay after arranging the allowances, deductions, income tax etc.

Field	Description	Type	Width
Emp_ID	Employee	Character	8
Month	Month	Character	18
Job_ID	Job Identification	Character	8
Basic_Pay	Basic_Pay	Number	6
Allowances	Allowances	Character	18
Inc_Tax	Income_Tax	Number	6
Net_Pay	Net_Pay	Character	
Ovt_Amt	Overtime Amount	Number	6

5) EMP_DUTY

P.K >> SR No. Emp_ID

P.K >> Emp_ID

Description:

This file takes the employee information from employee file the tells the duty shift of the employee.

Field	Description	Type	Width
SR_No	Serial No.	Number	8
Emp_ID	Employee Identification	Character	18
Shift_Time	Shift_Time	Character	18
Duty_Date	Duty_Date	Date	Date

Room Reservation + Restaurant Bill:

This section includes of table which tells us the process of room reservation and payment mode by customers. Detail is given below.

6) VISTOR_DAILY:

P.K >> Vist_No.
F.K >> Bil_No.

Description :

This file takes the bill no. from customer bill. Actually this file deals with the visitors only. Visitor are those people who just come to the hotel and take the mode of coffee only. This file gives the Meal_charges, coffee_charges and total amount etc.

Field	Description	Type	Width
Vis_No	Vistor_No	Number	4
Bill_No.	Bill_No.	Number	6
Food_CD	Food_Code	Number	4
Tot_Amt	Total_Amount	Number	6
Tip_Paid	Tip_paid	Character	6

7) CUSTOMER BILL:

P.K .. Bill_No.

Description:

This File give the information about bill no. of any kind bill date.

Field	Description	Type	Width
Bill_No.	Bill_No.	Number	6
Bill_Date	Bill_Date	Date	

8) PAYMENT

P.K >> Cust_ID.
P.K >> Cust_ID,Bill_No.

Description:

This file take the customer information from the customer file and bill no. from customer bill file. This file calculates the room charges the dining charges and then shows the total charges.

Filed	Description	Type	Width
S.No	Serial No.	Number	6
Cust_ID	Customer Identification	Number	5
Bill_No	Bill_No	Number	6
Status	Status	Characte	35
Rm_ID	Room Identification	Number	4
Rm_Ch	Room Charges	Number	5
Hall_ID	Hall Identification	Number	4
BK_Dt	Booking Date	Date	Date
Lv_Dt	Leaving Date	Date	Date
Tot_Amt	Total Amount	Number	6
Tip_paid	Tip Paid	Number	4

9) RECEPTION INFORMATION:

F.K >> Cust_ID.
F.K >> Rm_ID

Description:

This file takes the customer information from customer file and room information from room file. Actually reception information gives the information to the visitors or customers.

Field	Description	Type	Width
Name	Name	Character	20
Ad	Address	Character	35
Tele_No	Tele _No	Number	14
Id_card	Identity card	Character	20
Status	Status	Character	35
Rm _id	Room_Id	Number	4
Hall_cd	Hall_code	Number	4

10) ROOMS:

P.K >> Rm_ID.

Description:

This file is used to take the information about room. Whee rooms is located either on first floor or 2nd floor and what is the rent of the required room.

Field	Description	Type	Width
Rm_ID	Room identification	Number	4
Loc	Location	Character	18
Status	Status	Character	12
Rent	Rent	Number	6

Booking of Marriage Halls:

In this section fine tables are working. A customer books a marriage/party hall. Detail is given below.

11) HALL:

P.K >> Hall cd

Description:

This file is used take information about the halls. Either the hall is used for marriages or other parties and what the seating capacity of the required hall

Field	Description	Type	Width
Hall _cd	Hall _code	Number	4
Detail	Description	Character	18
Hall _cap	Hall _capacity	Varcher 2	12

12) HALL_BOOKING:

P.K >> Bki No.

F.K >> Cust_ID Hall_cd, Food-cd.

13) INFORMATION OF HALL:

P.K >> Inf_Date, Hall_cd.

F.K >> Hall_cd.

Description:

This file give the detail about the information of hall. Dither the hall is already booked at the required date or not. It take the hall code from hall (file).

Field	Description	Type	Width
Inf _date	Information date	Date	
Hall_ cd	Hall_ code	Number	4
Status	Status	Character	8
Ch_ per_ hd	Charger_ per_ head	Number	4

14) MENU

P.K >> Food_ cd.

Description:

This file is used to get information about the food served at hotel. What are the kinds of food and what are the charges per head.

Field	Description	Type	Width
Food_cd	Food_code	Character	6
Des	Description	Character	18

Expenses of Hotel:

This section includes of table, which show the expenses of hotel. Detail is given below.

15) EXPENDITURE:

P.K >> S.No

F.K >> Month, Utility_cd Exp_cd.

Description:

This file is used get information about the expenses of Hotel. It takes moth information, utility code and exp_code from respective files. It include the month, year in which the expenses are made. At end it gives the total amount of expenses.

Filed	Description	Type	Width
Sr.No.	Sr. No.	Number	4
Month	Month	Character	18
Utility_cd	Utility_code	Character	8
Utility_Exp	Utility_Exp	Number	6
Exp_cd	Exp_code	Character	8
Misc_Exp.	Miscellaneous Exppense	Number	6
Tot _Amt	Total Amount	Number	6
Status	Status	Character	7

16) UTILITY_BILLS.

P.K >> Utility cd.

Description:

This file gives the information about the utility expenses like utility bill e.g Gas bill, electricity bill, telephonic bill etc.

Field	Description	Type	Width
Utility_cd	Utility_code	Character	8
Detail	Description	Character	18

17) MISC_EXPENSE:

P.K >> Exp_cd

Description:

This file is used to get information about the miscellaneous expenses of hotel.

Field	Description	Type	Width
Exp_cd	Expenses _code	Character	8
Description	Description	Character	18

Supplier/Kitchen Inventory Food Stuff:

Supplier/kitchen inventory food staff. This section includes 9 tables. In this section supplier supplies the items to the hotel. Detail is given below.

18) SUPPLIES:

P.K >> Sup_cd

Description:

This file describes the particulars of the supplier who supplies certain items to the store for use in the hotel. This table contains, supplier name, address, telephone no. fax no. and e-mail address

Field	Description	Type	Width
Sup _cd	Supplier _code	Varchar	4
Name	Supplier _Name	Character	6
Ad	Address	Varchar	8
Tele_No	Telephone_No	Number	
Id_card	Id-card	Varchar	6

19) SUPPLY:

P.K >> Recp No.

F.K >> Sup_cd, It_No, B_No.

Description :

This table contains the details of items supplied by the supplier for the use in hotel to the store keeper. The accounts like supplier code, item no. and bill no. are inherited from respective tables.

Field	Description	Type	Width
Recp _No	Receipt _No	Number	6
Supp _cd	Supplier _code	Varchar2	6
Or _No	Order _No	Number	6
B_No	Bill_No	Number	6
Quy_Sup	Quantity_Supplied	Varchar 2	8

20) ITEM:

P.K >> Item_No

Description:

This table contains the brief description of a particular item supplied in the store by the supplier. The details inform us about item no. item name, unit price and the total price of the existing stock.

Field	Description	Type	Width
It_No	Item_No	Number	6
Name	Item_Name	Character	18
Ut_price	Unit_price	Number	6,2
Tot_Amt.	Total_Amount	Number	6

21) SUPPLIER BILL:

P. K >> Bill _No.

Description:

This file has a few contents which described the account of the supplier with respect to his supplies. It contains the Bill_no and the bill date i.e. the supply date.

Filed	Description	Type	Width
B_No	Bill_No	Number	6
B _Date	Bill_Date	Date	

22) ITEM STOCK:

P.K >> St_item _No

F.K >> It_No

Description:

This file is related to the stock of items with the store keeper. If tells the details of existing stock of various items. It contains stock_item(the date of stock) item no.(from respective table) and the quantity in hand.

Filed	Description	Type	Width
St_item	Stock-item	Number	4
It _No	Item_No	Number	6
Qty _on_hand	Quantity _on_hand	Varchar 2	6

23) BUDGET:

P.K >> , Head_cd, Month.

F.K >> Head_code, Month.

Description:

As the name indicates, this table is concerned with the dealings of cash. It describes the total cash taken and the consumed part of that. It takes year, head code, month from the required file. It tills about the amount consumed.

Field	Description	Type	Width
Head_cd	Head_code	Character	10
Month	Month	Character	18
Tt _AMT	Total_amount	Number	6
AMT_cons	Amount_ consumed	Number	6
Status	Status	Character	50

24) ORDER:

P.K >> Or _No

F.K >> Qty _or.

Description:

It describes the placed before the supplier by the store keeper for various items. It contains order_no. Item no, quantity ordered, booking date, receiving date, status.

Filed	Description	Type	Width
Od_No	Oder_No	Number	6
It_No	Item_No	Number	6
Qty _ord	Quantity _ordered	Number	6,2
Bk _dt	Booking _date	Date	
Rec _dt	Receiving_ date	Date	
Status	Status	Character	8

25) ITEM_CONSUMED:

P.K >> Cons_dt It_no
F.K >> It_No

Description:

This table contains the details about the consumption of various items from the store. The orders to the supplier or based on this table as it contains the item consumption details. It contains consumption date, item no. and quantity consumed.

Filed	Description	Type	Width
Cons_dt	Consumption _date	Date	
It_No	Item_No.	Number	6
Qty_cons	Quantity_consumed	Varchar 2	6

26) BUDGET HEAD:

P.K >> Head_cd
F.K >> Des.

Description:

It contains the details of part of budget which has been used for specific work or purchase of certain items. This table contains the budget head and its description.

Filed	Description	Type	Width
Head_cd	Head _code	Character	10
Des	Description	character	18

CHAPTER 5

DESIGN PHASE

Chapter 5

DESIGN PHASE

5.1 Introduction:

Software Design is process through which requirements are translated into a representation of software. Design is the first step in the development phase for any engineered product or system. It may be defined as "the process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization".

Software Design is the first of the three technical activities: design, coding and testing-that are required to build and verify software.

The importance of software design can be stated with a single word-*quality*. Design is the place where quality is fostered in software development. design provides us with representations of software that can be assessed for quality. Design is the only was that can accurately translate a customer's requirements into a finished software product or system.

Software Design can be categorized into the following phases:

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

The data design transforms 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-Relation Diagram and the detailed data content depicted in the Data Dictionary provide the basis for the data design activity.

The *architectural design* defines the relationship among major structural elements of the program.

The *interface design* establishes the layout and mechanism for human machine interaction.

The *procedural design* transforms structural elements of the program architecture into a procedural description of software components.

5.2 Software Design Characteristics:

The characteristics that serve as guide for the evaluation of a good design are as follows:

- The design must implement all the explicit requirements contained in the analysis model and it must accommodate all the implicit requirements desired by the customer.
- The design must be a readable, understandable guide for those who generate code and for those who test and subsequently maintain the software.
- The design should provide a complete picture of the software, addressing the data, functional and behavioral domains from an implementation perspective.

Software design activities for Hotel Management System (PPIS) are:

5.3 Data Design:

Data design is the first of the three activities that are conducted during software engineering. The impact of data structure on program structure and procedural complexity causes data design to have profound influence on software quality.

The primary activity during data design is to select logical representation of data objects (data structures) identified during requirements analysis and specification phase. Regardless of the design techniques to be used, well-designed data can lead to better program structure, effective modularity and reduced procedural complexity.

5.4 Code and IDs Design:

Codes and IDs are required to reduce the storage and number of typing strokes. To avoid any error, code should be small and simple. Codes and IDs designed for the Privatization Process Information System explicitly defines the particular entity.

The codes and IDs used in the system are as follows:

- Cust_ID
- BILNo
- Room_ID
- Hall_Code
- Food_Code
- Food_CD
- Exp Code
- Utility Code
- EmpID
- JobID
- TelNo
- Co_Code
- SrNo
- Sup_Cd
- Receipt No

- Item_No
- Order No
- HEAD_Code

5.5 Software Engineering Process:

No doubt, a complete understanding of software requirements is essential to the success of a software development effort. No matter how well designed or well coded a poorly analyzed and specified program will disappoint the user and brings grief to the developer.

The requirements analysis task is a process of discovery, refinement, modeling and specification. The software scope, initially established by the system engineer and refined during software project planning, is refined in detail.

5.6 Obstacles In Analysis Phase:

As we know both the developer and customer take an active role in requirements analysis and specification. The customer attempts to reformulate a sometimes-nebulous concept of software function and performance into concrete details. The developer acts as interrogator, consultant, and problem solver.

Requirement analysis and specification may appear to be a relatively simple task but as we know appearances are always deceptive. Communication content is very high. Chances for misinterpretation or misinformation abound. Ambiguity is probable. The dilemma that confronts a software engineer may best be understood by repeating the statement of an ambiguous customer. "I know you believe you understood what you think I said, but I am not sure you realize that what you heard is not what I meant".

5.7 Requirement Analysis:

Requirement analysis is a software engineering task that bridges the gap between the system-level software allocation and software design. Generally software requirements analysis may be divided into five areas of efforts:

1. Problem recognition
2. Evaluation and synthesis
3. Modeling
4. Specification
5. Review

Initially the analyst studies the software project plan. Next, communication for analysis must be established so that problem recognition is ensured. The goal of analyst is recognition of basic problematic elements as perceived by the user or customer.

Problem evaluation and solution synthesis is the next major area of the efforts for the analyst. The analyst must define all externally observable data objects, evaluate the flow and content of information; define and elaborate all software functions; understand software behavior in the context of events that effect the system; establish system interface characteristics; and uncover additional sign constraints. Each of these tasks serves to describe the problem so that an overall approach or solution may be synthesized.

If we take into consideration the hotel management system , the first thing which should me made clear is that why we need the automation of this system as we already have an efficient data entry system being run by the management quite efficiently. The fact which becomes obvious is that the need of the time with the growth in the business and to cope with the increasing requirements of the organization. That is why we have developed an automated system for the management to be able to cope with the needs and requirements of the growing business.

Interaction with the customer is first and for most element in requirement analysis phase. This phase has its critical and crucial importance. The customer wants to convey all his requirements in one meeting and the system engineer is also willing to get information as much as he can. This phase consists of many levels of abstractions. . Then we have to distinguish between relevant and irrelevant information to handle the systematic procedure

carefully. After getting all the required information, we have to convert it into database management system-i.e. defining the involved factors, their mandatory and compulsory relationships and other concepts about entity relationships. Hotel management system is quite intricate and complex procedure and polygonal in its fields. That's why the arrangement of entity relationship is a difficult task. This work demands professional consideration and devotion.

For the preparation of an efficient and dependable system we have used Erwin and then the oracle database has been used for the development of database because both of these tools are latest and are being widely used for the database development. The tables were initially designed in Erwin, the composite and the primary keys of the tables were decided and their relationships were made and after giving final shape of the symbolic database we transferred it into SQL by using Forward Engineering Commands. Later the respective forms were designed in the form builder in the developer 2000. the data was later entered in the forms.

Throughout evaluation and solution synthesis activity, the analyst's primary focus is on "what", not "how". What data does the system produce and consume, what functions must the system perform, what interfaces are defined, and what constraints?

It is important to note that a detailed specification may not be possible at this earliest of evaluation. The user may be unsure of precisely what is required. The developer may be unsure that a specific approach will properly accomplish function and performance. The most commonly used analysis technique to bridge the communication gap between the customer and the developer and to get the communication process started is to conduct a preliminary meeting or interview.

5.8 Analysis Modeling:

At a technical level software engineering begins with a series of modeling tasks that lead to complete specification of requirement and a comprehensive design representation for the software to be built. The analysis model, actually a set of models, is the first technical representation of a system. Structured analysis and object-oriented analysis are the two most commonly used approaches. In structured analysis we create models that depict information that is data and control, content and flow, we divide the system functionally and behaviorally and then we depict the sense of what must be build.

The analysis model must achieve three primary objectives:

1. To describe what the customer requires.
2. To establish a basis for the creation of software design.
3. To define a set of requirements that can be validated once the software is built.

5.9 Data Modeling:

Data modeling answers a set of specific questions that are relevant to any data processing application. What are the primary data objects to be processed by the system? What is the composition of each data object? What attributes describe the object? Where do the objects currently reside? What are the relationship between each data object and other objects? What is the relationship between the objects and the processes that transform them?

5.10 Data Modeling through Platinum Erwin ERX 3.5.2:

Features:

Erwin has many powerful features that let you design entity relation data models and dimensional models. With Erwin you can create and maintain databases on many different target servers. But perhaps Erwin's most powerful feature is its simplicity and ease of use.

Erwin uses many of the standard Windows features and conventions. Just as you can create, modify, save, and print documents in other Windows applications, you can perform these same tasks in Erwin using familiar Windows dialogs.

To understand the full scope of Erwin's features and capabilities, you can open the Movies. erl sample file, which is automatically installed with Erwin. This model includes all the typical objects and properties that you may

want to include in your own data models. Throughout the Erwin Online Help system, some of Erwin's features are illustrated using the Movies.erl file as an example. Click on, Sample Movies in Logical Model or Sample Movies in Physical Model, to look at the logical and physical views of the sample model in a help window.

5.11 Logical Modeling:

Attributes:

Once you have discovered the people, places, and events that define the. entities in your model, you can begin to fill out the definition by listing the information that you want to track for each entity. For example, you may want to track information on customers in your model. Once you create the CUSTOMER entity, you can begin to define the individual pieces of information you want to track for each customer, including the customer name, customer address, and customer phone number. Each of these pieces of information is saved in Erwin as an attribute of the CUSTOMER entity.

Using Erwin, you can define attribute properties, such as the name or definition of the attribute, in the Attribute Editor. Erwin also provides domains, which are simply a shortcut method for assigning a set of properties, such as the logical data type, to an attribute. Once you define a domain in the Domain Dictionary, it is available in the Independent Attribute Browser. To speed the

construction of your model, you can automatically specify all attribute properties by assigning a domain to the attribute in a single action by either:

dragging the independent attribute from the Independent Attribute Browser to an entity or attaching the domain to the attribute in the Attribute Editor.

Determining key group attributes is an important task in developing a logical model. A key group is one or more attributes that either:

1. Define a unique key for the data represented by the entity, such as a customer number or define a non-unique key for the data that is used for data access, such as a customer last name.

2. While the identification of non-unique keys is not required in the logical model, it is useful for capturing user requirements for data access. These non-unique key groups can then be indexed in the physical model to improve the performance of queries.

5.12 Creating entities and defining relations:

Along with attributes, entities are the cornerstone of the logical model. You can specify entity properties such as entity names, definitions, and notes in the Entity Editor.

An Erwin logical model can contain independent and dependent entities. An independent entity is an entity whose instances can be uniquely identified without determining its relationship to another entity. A dependent entity is an entity whose instances cannot be uniquely identified without determining its relationship to another entity or entities. Dependent entities are child entities that include all or a portion of the primary key of the parent entity in their primary key, and rely on the migrated foreign key attributes for identity.

Erwin draws the entity box with a horizontal line that divides the box in half. You can enter the primary key in the top half of the entity box and non--keys in the bottom half of the entity box. You can choose to have keys migrate to either the primary or non-key area of the box. See Foreign Key Migration for more information.

5.13 Physical modeling:

Creating tables in Erwin:

In the Table Editor, you can specify table properties including table names, comments, volumetric, user-defined table properties, synonyms, aliases, table storage locations, validation rules, stored procedures, and scripts. When you select DM (Dimensional Modeling) notation for your physical model, you can also specify dimensional information for a table.

An Erwin physical model can contain independent tables and dependent tables. An independent table is a table whose instances can be uniquely identified without determining its relationship to another table. A dependent table is a table whose instances cannot be uniquely identified without determining its relationship to another table or tables. Dependent tables are child tables that include all or a portion of the primary key of the parent table in their primary key, and that rely on the migrated foreign key columns for identity.

Erwin draws the table box with a horizontal line which divides the box in half. You can enter the primary keys in the top half of the table box and non-keys in the bottom half of the table box. You can choose to have keys migrate to either the primary or non-key area of the box. See Creating a Relationship in the Physical Model for more information.

When you add a table to the diagram, Erwin labels the table (En) where E stands for table, and n is a unique number.

5.14 Relationships in physical model:

A relationship is used in an Erwin physical data model to show that there is an association or link between two tables, or between a table and itself. You can use Erwin's physical modeling features to create these three types of relationships:

- Identifying relationship

- Non-identifying relationship
- Recursive relationship

Each relationship can visually depict seven pieces of information:

- Type of relationship
- Parent end of relationship
- Child end of relationship
- Optional symbol (only for non-identifying relationships)
- Referential integrity
- Foreign key name
- Cardinality

Relationships are used in both the logical and physical models, and can be represented in either model as one or more foreign key attributes. See Working With Relationships in the Logical Model for more information.

When you create a relationship, Erwin labels the relationship (Rn) where R stands for relationship, and n is a unique number. Erwin assigns each number only once per model and calculates new relationship numbers beginning with the number zero.

5.15 Generating triggers:

A trigger is a named set of precompiled SQL statements stored on the server that is automatically executed when a specified event occurs. For example, a trigger can be executed whenever a row in an existing data table is inserted, updated, or deleted. The trigger tells the DBMS how to process the

SQL INSERT, UPDATE, or DELETE commands to enforce the organization's normal business rules.

A referential integrity trigger is a special kind of trigger that is used to maintain integrity between two related tables. For example, if a row in a parent table is inserted, updated, or deleted, a referential integrity trigger (hereafter called an RI trigger) tells the DBMS what to do to rows in other tables that have a foreign key value that matches the primary key in the row being added, updated, or deleted.

5.16 The process of forward engineering in Erwin:

The process of generating the physical database schema from the logical data model is called forward engineering. When you generate a physical schema, Erwin lets you include tables, triggers, and stored procedures, as well as index, constraint, physical storage, and other database features supported by the target DBMS.

Similarly, the process of generating a data model in Erwin from a physical database is called reverse engineering. You can quickly create a data model by reverse engineering an existing database. After you've created an Erwin model, you can reengineer or update the data structure and easily migrate it to another database format.

Erwin also lets you update your physical database schema to reflect changes to the model and update the model to capture changes made directly to the database. This synchronization process captures differences between an Erwin data model and a physical database, schema script file, Model Mart diagram, or a different Erwin model. The resulting list of changes can be used to update the open Erwin data model, the database, or both.

The Forward Engineer/Schema Generation option on the Tasks menu lets you initially create your database schema, including tables, triggers, stored procedures, and other database objects.

Erwin gives you two choices when generating a database schema. You can:

Connect Erwin directly to the target server and generate the schema in one step. See Generating a Schema to a Target Server for more information.

Generate an ASCII DDL (Data Definition Language) script. A DDL script must be run as a separate step on the server to generate the schema. Erwin lets you generate the schema script and save it as a text file, which can be opened in Notepad, imported into a word processing application, or loaded by any utility used to interpret SQL scripts such as SPUFI for DB2, ISQL for SQL Server, SQL*DBA for ORACLE, or SQL Talk for SQL Base.

5.17 Using Erwin with Oracle Developer 2000:

Erwin provides a powerful bi-directional link to the Oracle Designer/2000 repository. A Designer/2000 repository is a special dictionary database that is used to store system and data definition information for applications that access Oracle production databases. Using the Oracle API for updating the repository, Erwin's custom stored procedures provide fast import and export capabilities. You can use Erwin's data modeling tools to design applications that are stored in the Designer/2000 repository, or reverse engineer existing designs into an Erwin diagram.

You can use Erwin's export capability to save a diagram into the Designer/2000 repository. Erwin creates a PL/SQL script which it uses to insert the elements in the diagram, including entities, attributes, and relationships, into the Designer/2000 repository. Similarly, you can use Erwin's import capability to create a logical data model from an existing application in the Designer/2000 repository.

The essence of the matter is that software engineering process demands professional consideration and devotion. In database management, defining entities and its attributes and then creating their relations is the most difficult task. That's why as a system engineer we selected Platinum Erwin ERX 3.5.2, which fulfills the needs of a perfect and accurate database system.

CHAPTER 6

THE USER'S GUIDE

Chapter 6

THE USER'S GUIDE

Introduction:

The user guide is provided to become familiar with the new system more easily and quickly. This chapter will provide a comprehensive understanding of how to operate the "Hotel Management System"

Since the system operates in a multi user environment so it requires the service of DBA to perform certain tasks such as creating new users, giving them privileges, keeping back up of data etc.

The first and the foremost step towards the system implementation is Windows/98 or a high version. The next step is the installation of Oracle 7 and Developer/2000. Oracle is the database engine functioning at the back end where as developer/2000 is its front end development tool which consists of Developer/2000 Forms 5.0, reports 3.0.

After the installation of Oracle 7 and Developer/2000, the database administrator will create users identified by their respected passwords.

Getting started:

Before starting working with the front end, the user should start Oracle 7 database engine. The database engine is mounted by selecting:
Star -> Programs -> Personal Oracle 7 **-> for Windows** 2000 **-> Start**

Database

On clicking this option, following messages will appear one by one:

Starting up database....

Checking security....

Oracl 7 instance started

Database mounted

Finally a message box will appear displaying:

Oracle 7 databse started successfully.

Press OK to clear this message box.

Now in order to logon to Developer/2000 Forms *5.0,* click on:

Star -> Programs -> Developer/2000 R.21 -> Form Builder

Message will display

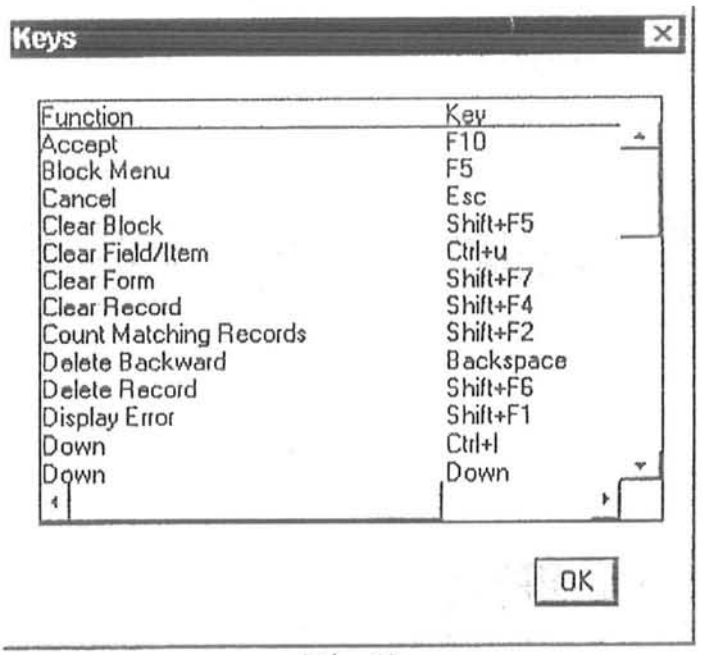
Well come to Form Builder

Press OK to Enter the Form Builder

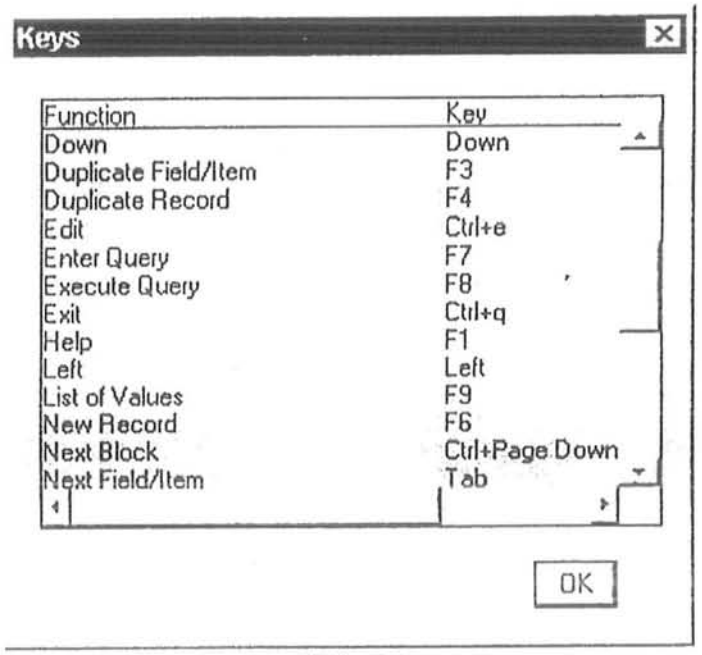
Oracle Terminal:

First we define the Oracle terminals (keys) functionality. When the user starts Hotel Management System a list of ORACLE keys is always present that a user can see by press key sequence CTRL-F 1. The following screen with keys names and their working appear. For example in the following fig first key is accept (F 10). By pressing this key one can save (Commit) the transaction. Like this different keys for the user convenience are present i.e.

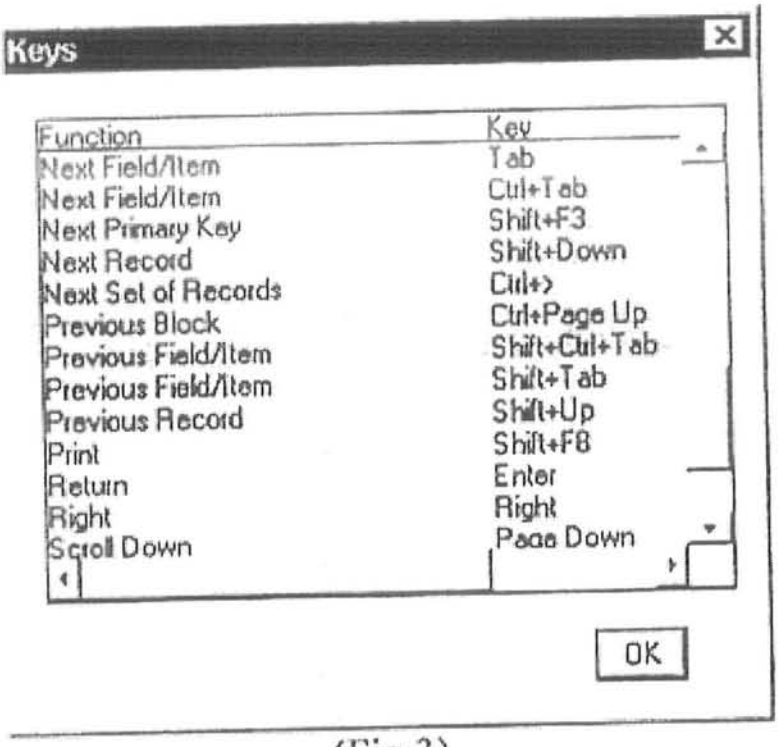
Duplicate item, duplicate record, delete record etc. Fig 1 to Fig 4 shows all possible keys available in Oracle Terminal from user point of view.



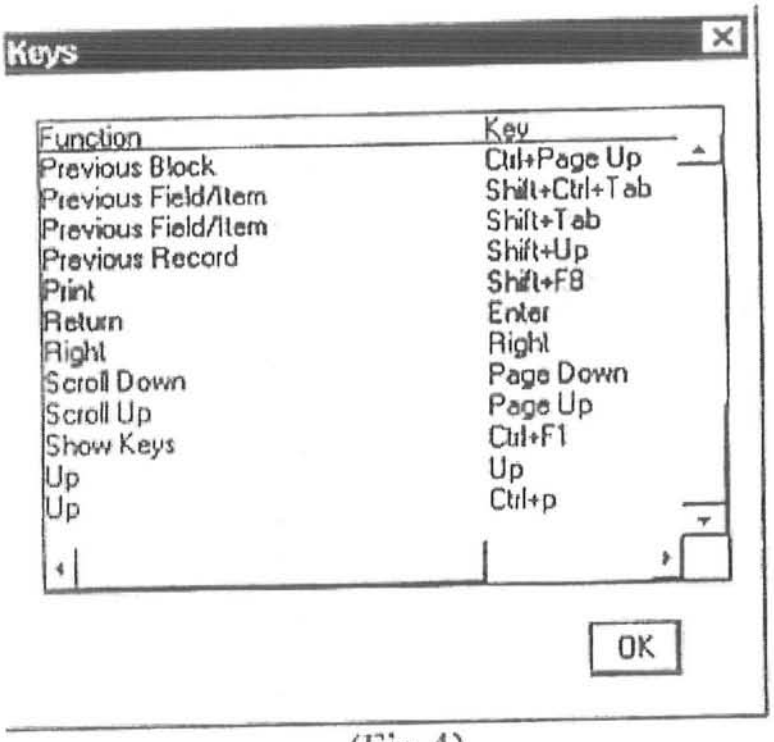
(Fig.1)



(Fig.2)


Keys
Function
Key
Next Field/Item
Tab
Next Field/Item
Ctrl+Tab
Next Primary Key
Shift+F3
Next Record
Shift+Down
Next Set of Records
Ctrl+>
Previous Block
Ctrl+Page Up
Previous Field/Item
Shift+Ctrl+Tab
Previous Field/Item
Shift+Tab
Previous Record
Shift+Up
Print
Shift+F8
Return
Enter
Right
Right
Scroll Down
Page Down
OK

(Fig.3)


Keys
Function
Key
Previous Block
Ctrl+Page Up
Previous Field/Item
Shift+Ctrl+Tab
Previous Field/Item
Shift+Tab
Previous Record
Shift+Up
Print
Shift+F8
Return
Enter
Right
Right
Scroll Down
Page Down
Scroll Up
Page Up
Show Keys
Ctrl+F1
Up
Up
Ctrl+p
OK

(Fig.4)

Console:

Console is the name for the standard features that provide essential user information at run time. It appears at the bottom of the screen.

The console includes the Status line and the message line.

Status Line:

The status is a console component that displays a variety of indicators to reflect the current state of the form module. These indicators along with their meaning are described below:

Indicator	Meaning
Count	The number of records retrieved and displayed by a query.
•	The last record has been retrieved
^	There are records below the current ones
V	There are records below the current ones.
Enter Query	There are records is in enter query mode and no record has been retrieved.
<List>	A list of values (LOV) is associated with the current item.

Message Line:

The message is a console component that displays both Oracle Forms and application specific messages. For example, different error messages and additional help may be displayed, whenever needed.

Default Menu:

The default menu is the menu that is automatically used by all Oracle Forms applications. It provides an alternative method of use to that keystroke operation. The default menu can be customized to introduce your own functionality. In the developed system, the main menu has been customized. Main menu form +title detail each and every form.

Reports:

Reports icon illuminates different kinds of inquiries made by different people in different environment.

- Budget based reports
- Customer's room information
- Pay sheet
- Supply of items

Budget based reports provide complete information about the hotel budget for a specific time it may be in months or a year. Customer room information provides an enquiry about any customer stayed in hotel in a specific duration and what's his biodata. Pay sheet report provides information about the employee's salary. It also explains to user that the employee of particular pay scale category has what amount of salary onto his credit. The supply of items icons illustrates what kind of supply is supplied to hotel and who was the supplier of that particular supply. These reports help the

management as well as other departments to inquire about any activity acted in the hotel environment.

Actions:

By moving the cursor on action icon the user can save, clear & exit from any particular record or data field.

Query:

By selecting the query icon the user can enter in any peculiar query like budget query, customer information, employee record etc. the user can also execute the query as well as cancel the executed query.

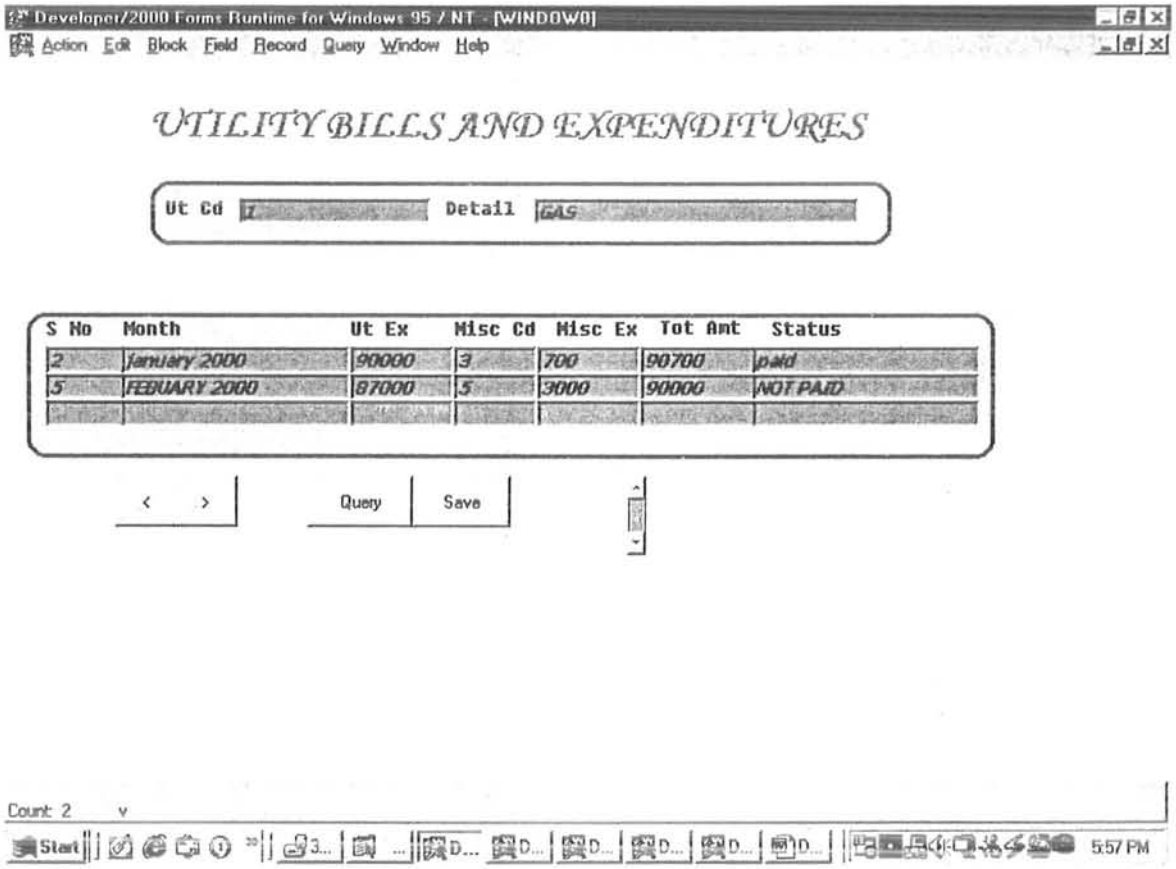
Records:

Record icon provides the facilities of moving into next record, coming back into previous record, tackling the scroll bar up and down, inserting of any new record and removing of any desired record.

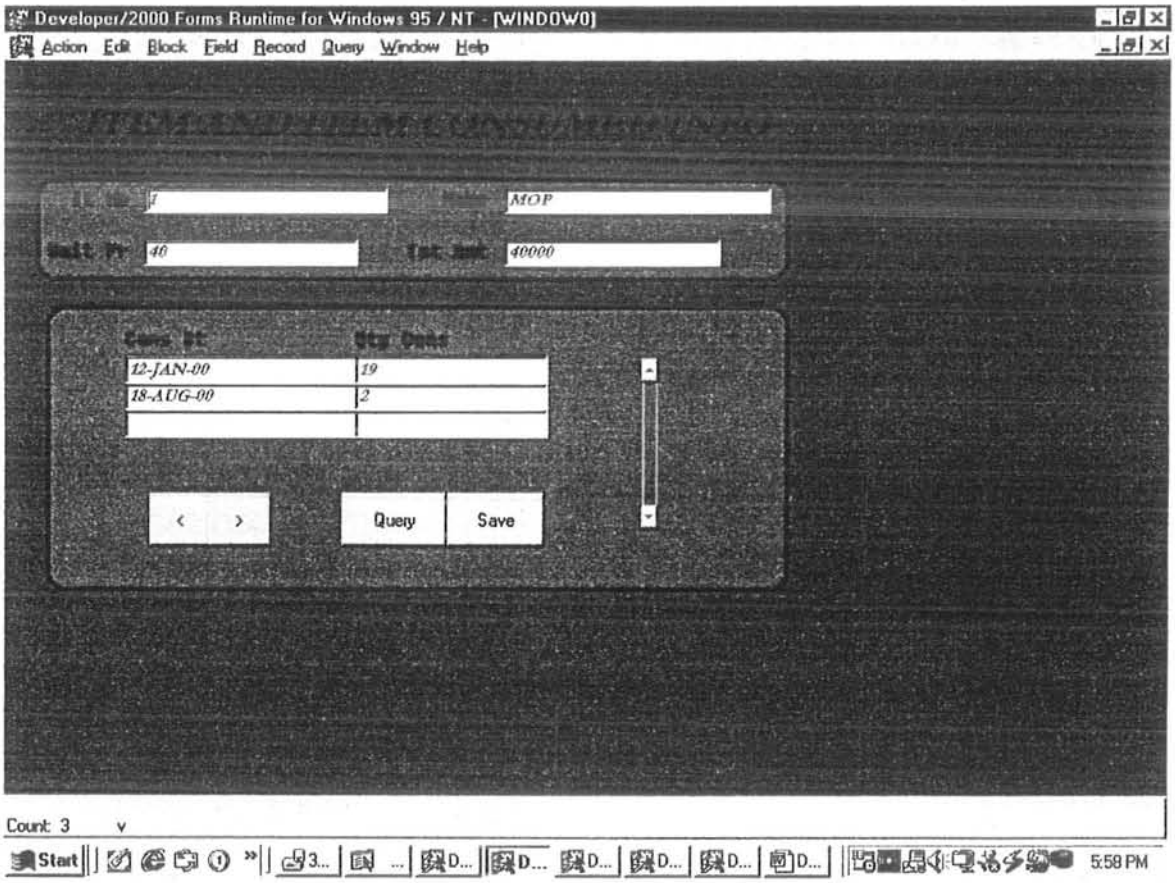
Important consideration:

Detail up to default menu.

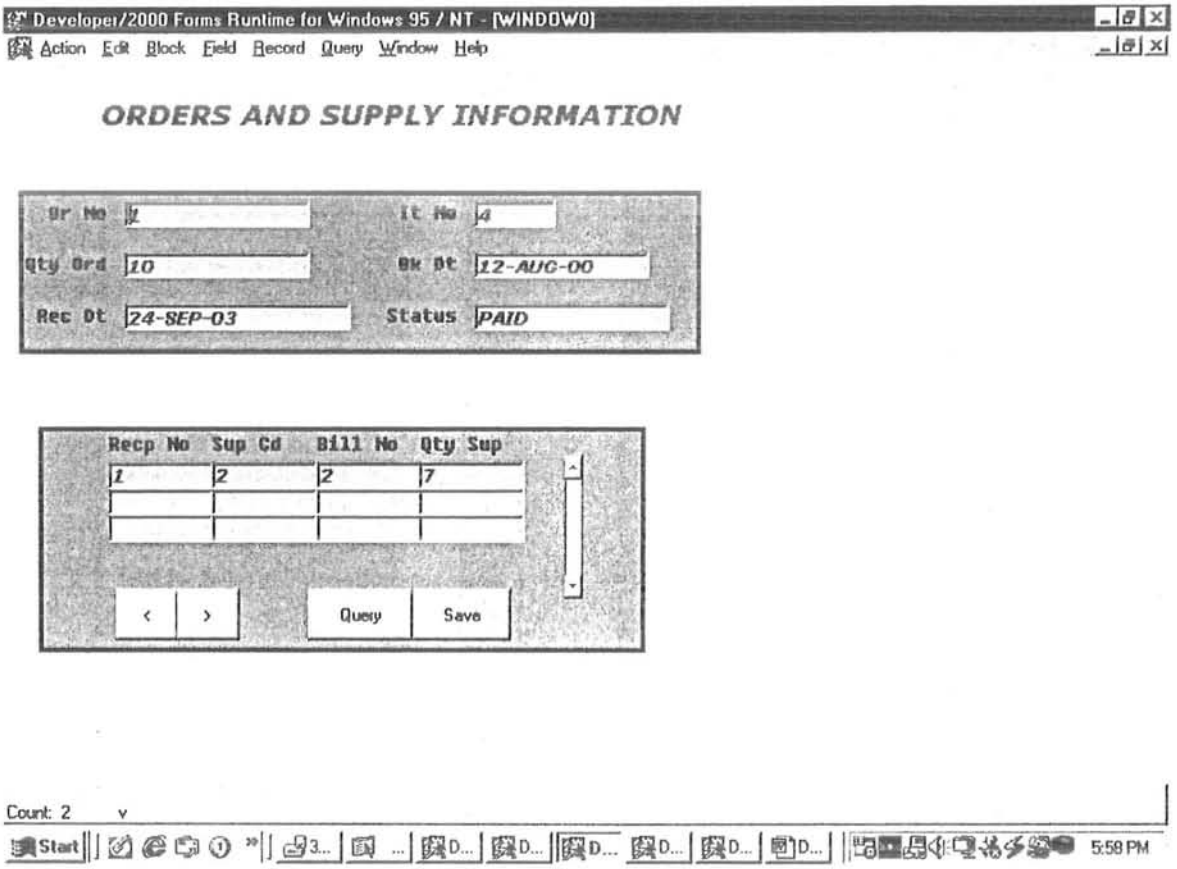
Appendix A



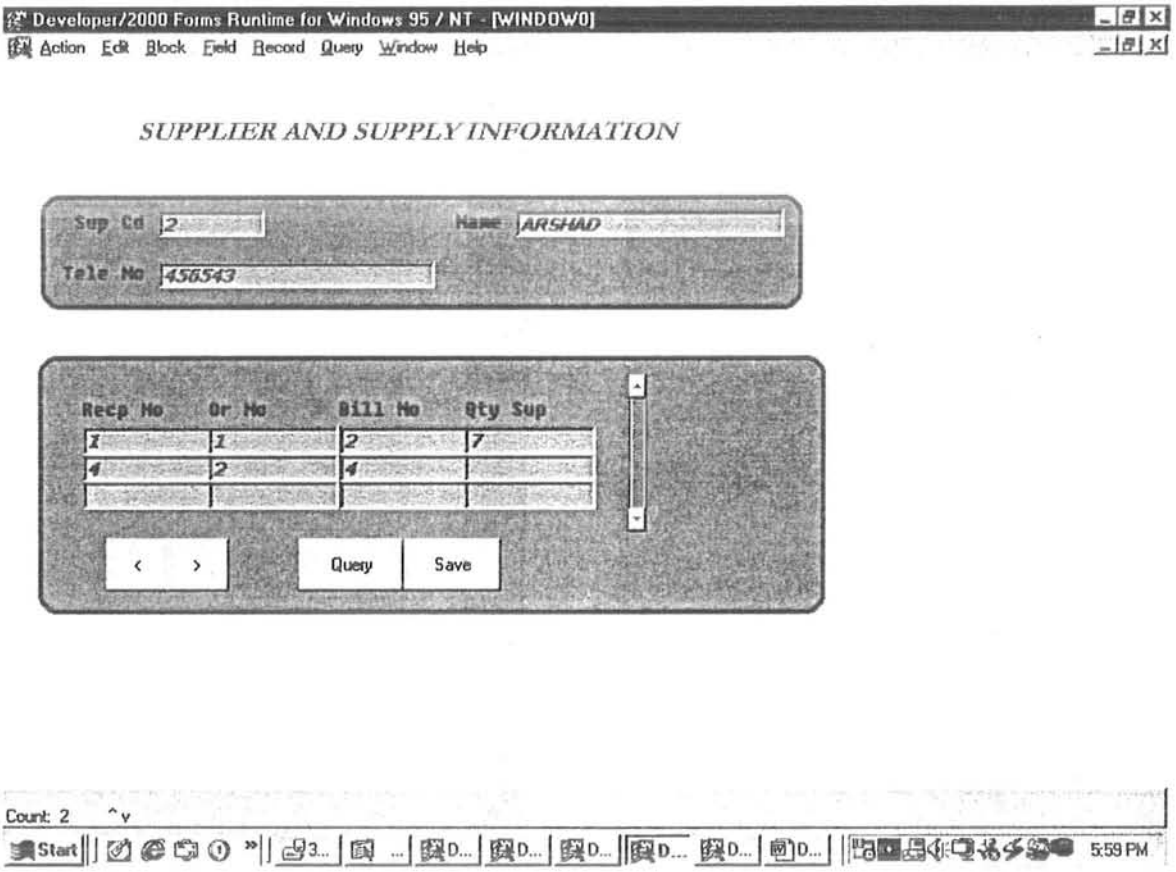
This form will give information of various utility expenses such as gas, electricity, Telephone etc along with the monthly information of miscellaneous expenditures. Also Tells about the status of the bill to be paid or not.



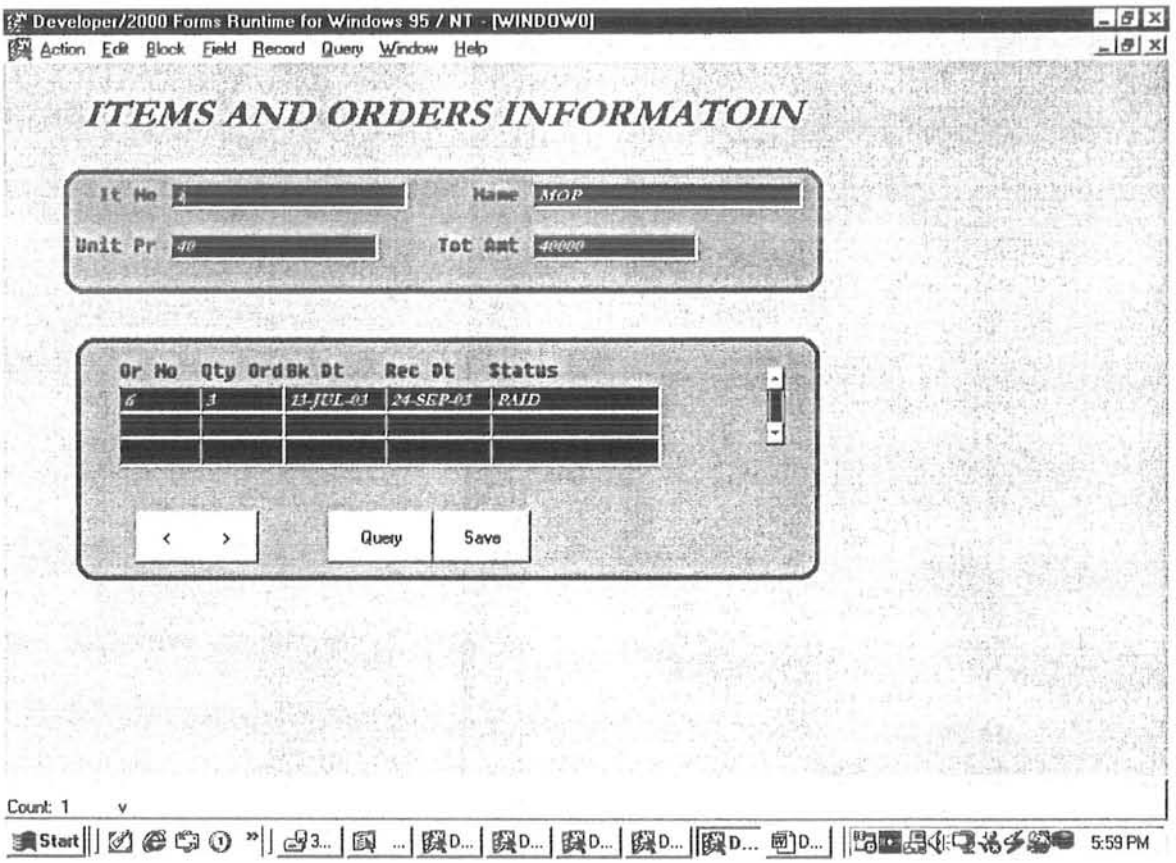
This form has the information of the items, the quantity and their consumption date.



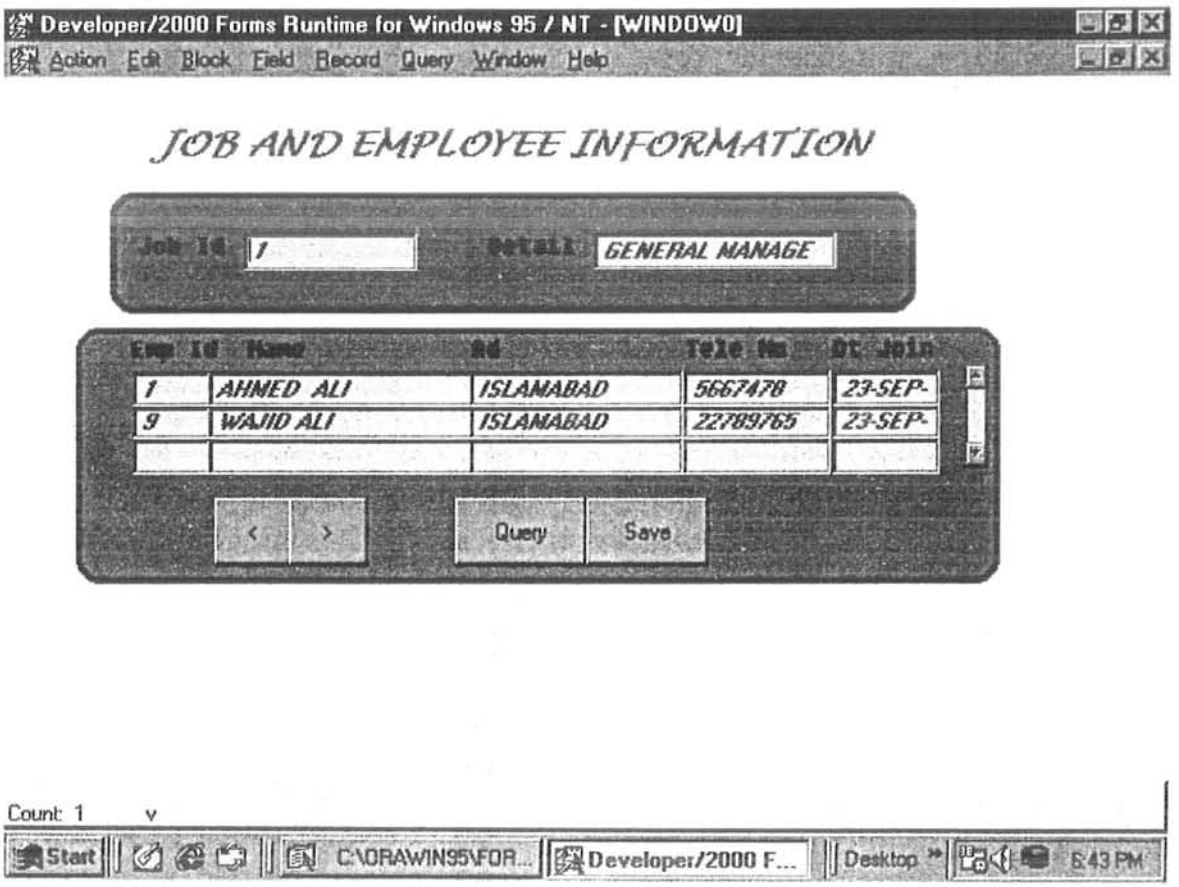
The above form tells about the items which are specified in the orders , the required amount of the items and the supplied amount of the items.



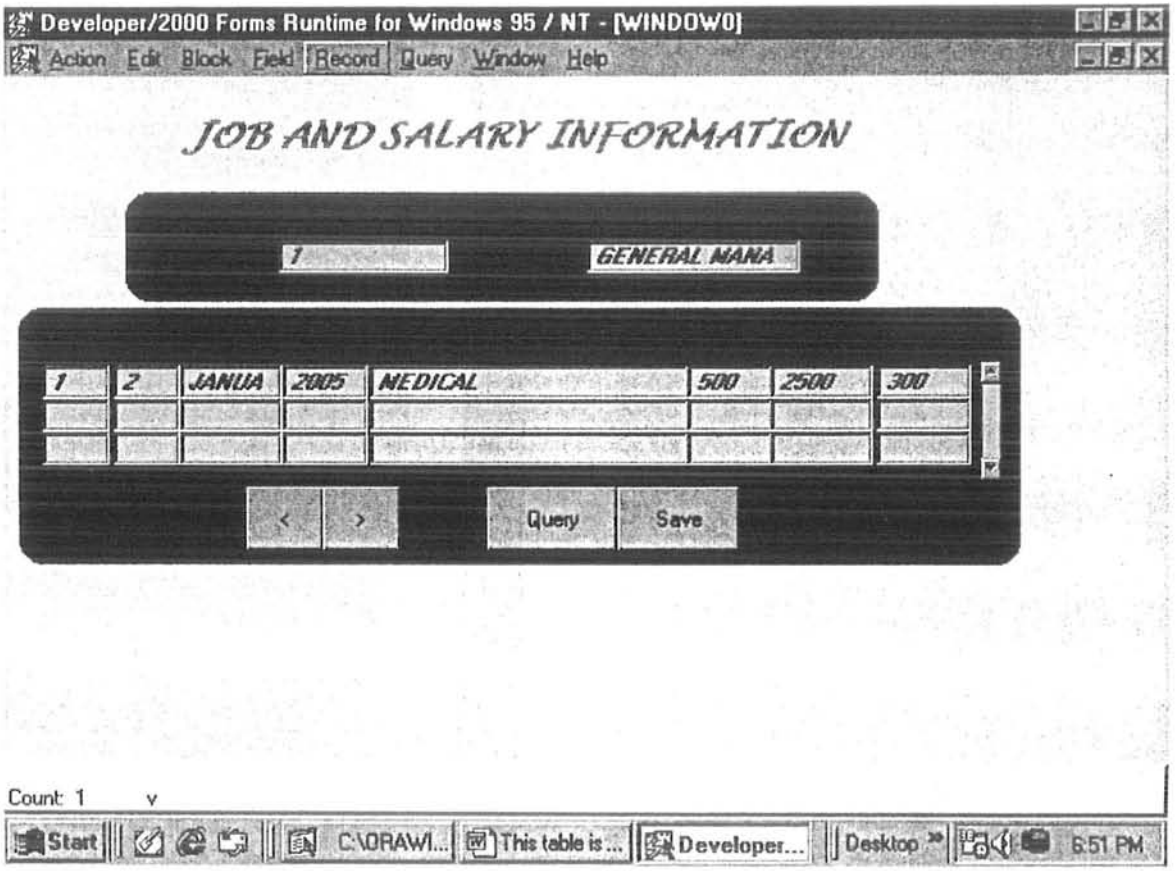
This form carries the information of the supplier and the orders which has been supplied by him.



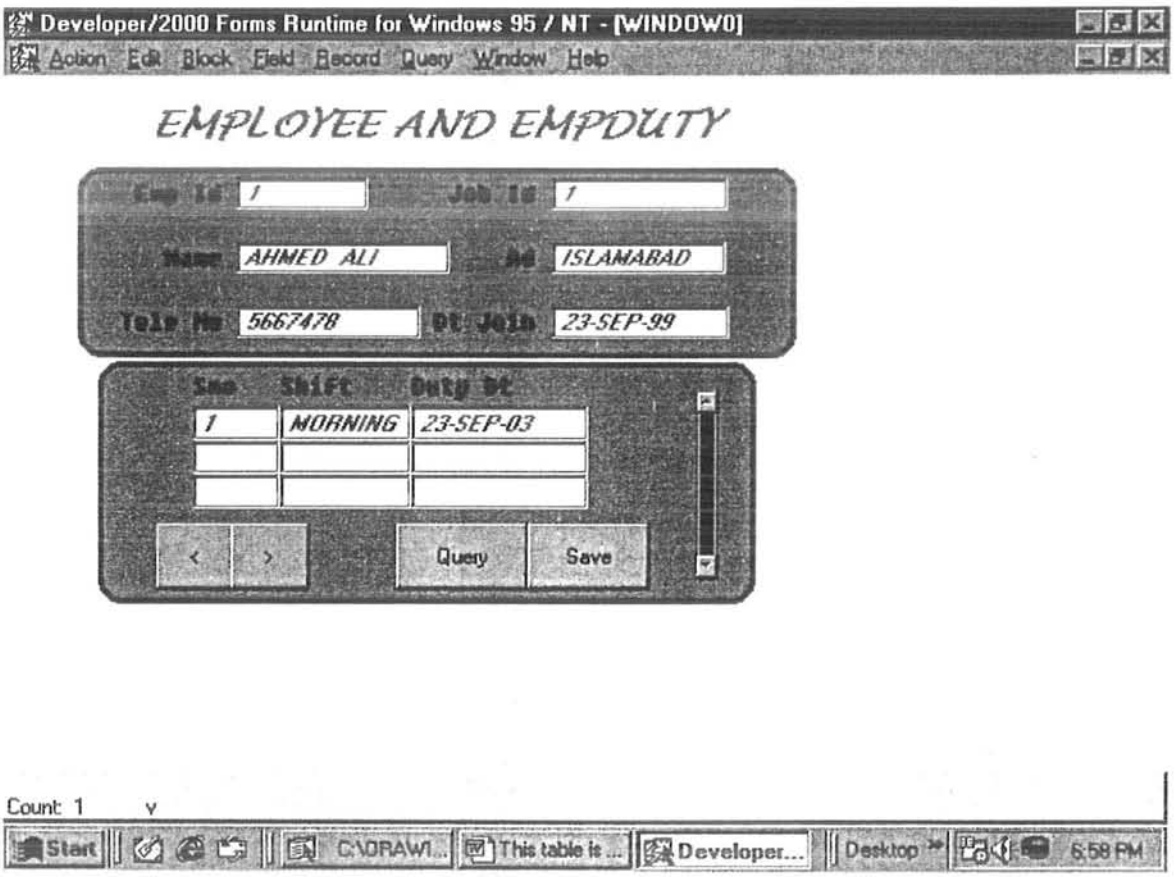
The above form inform about the items which are specified in various orders.



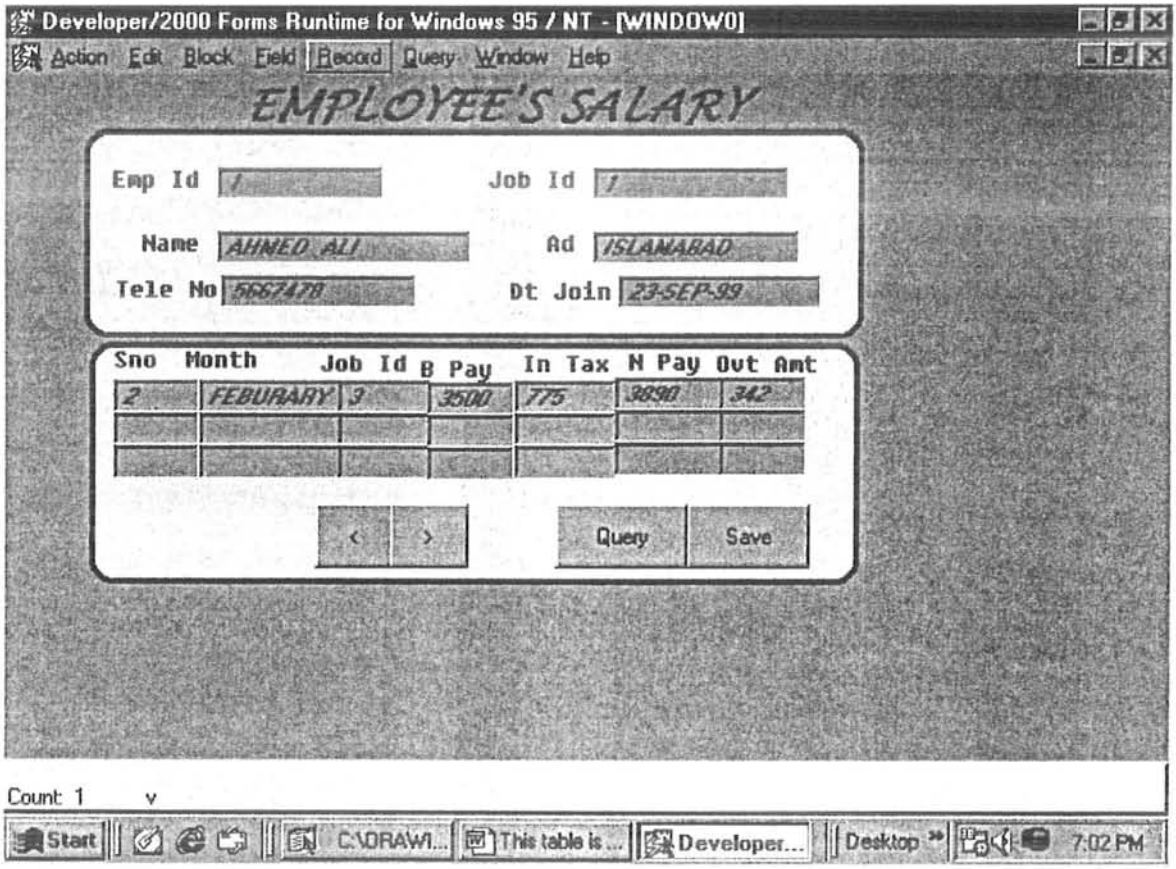
This table gives information about the job I.D and details of the person (Name, Address, Phone NO, date of joining).



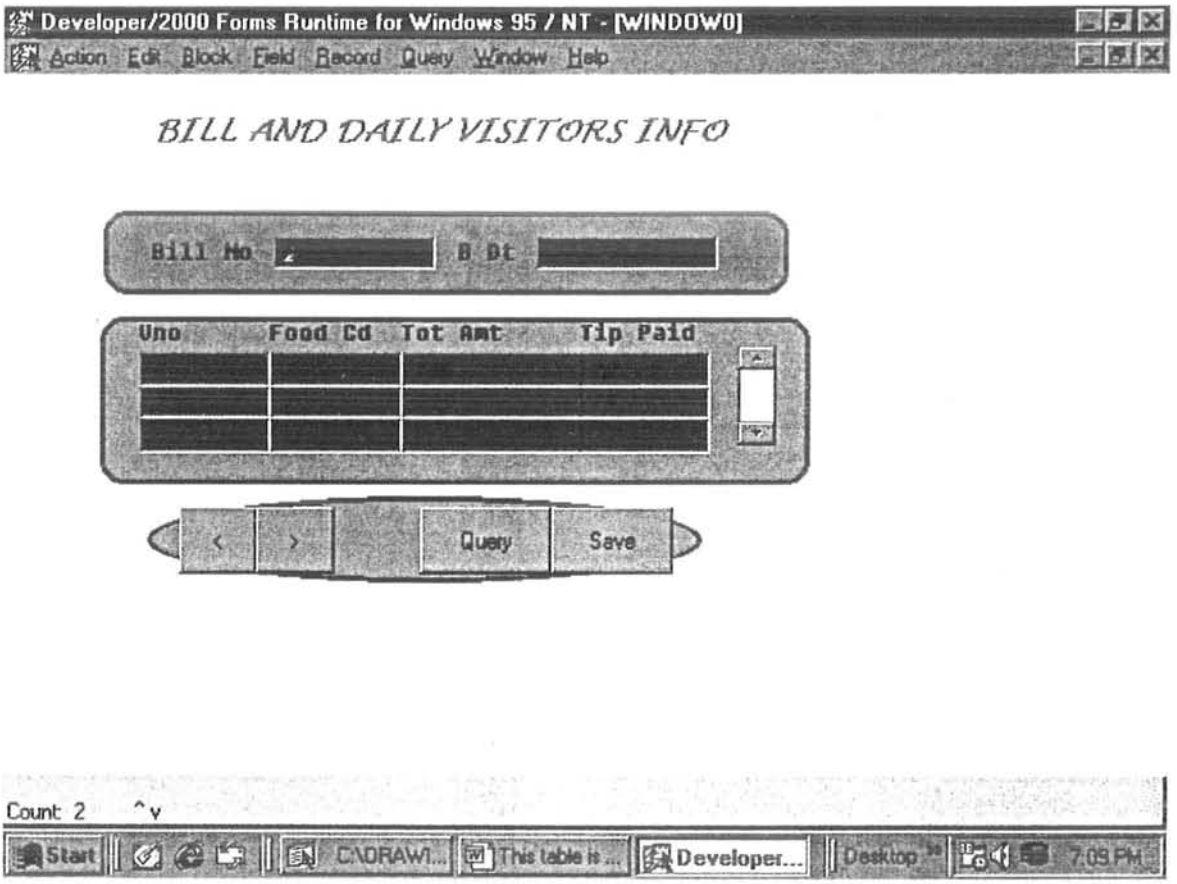
This table deals with the information regarding job and salary details of the employee like Employee I.D, joining month, allowances, Income tax, Net pay, Overtime.



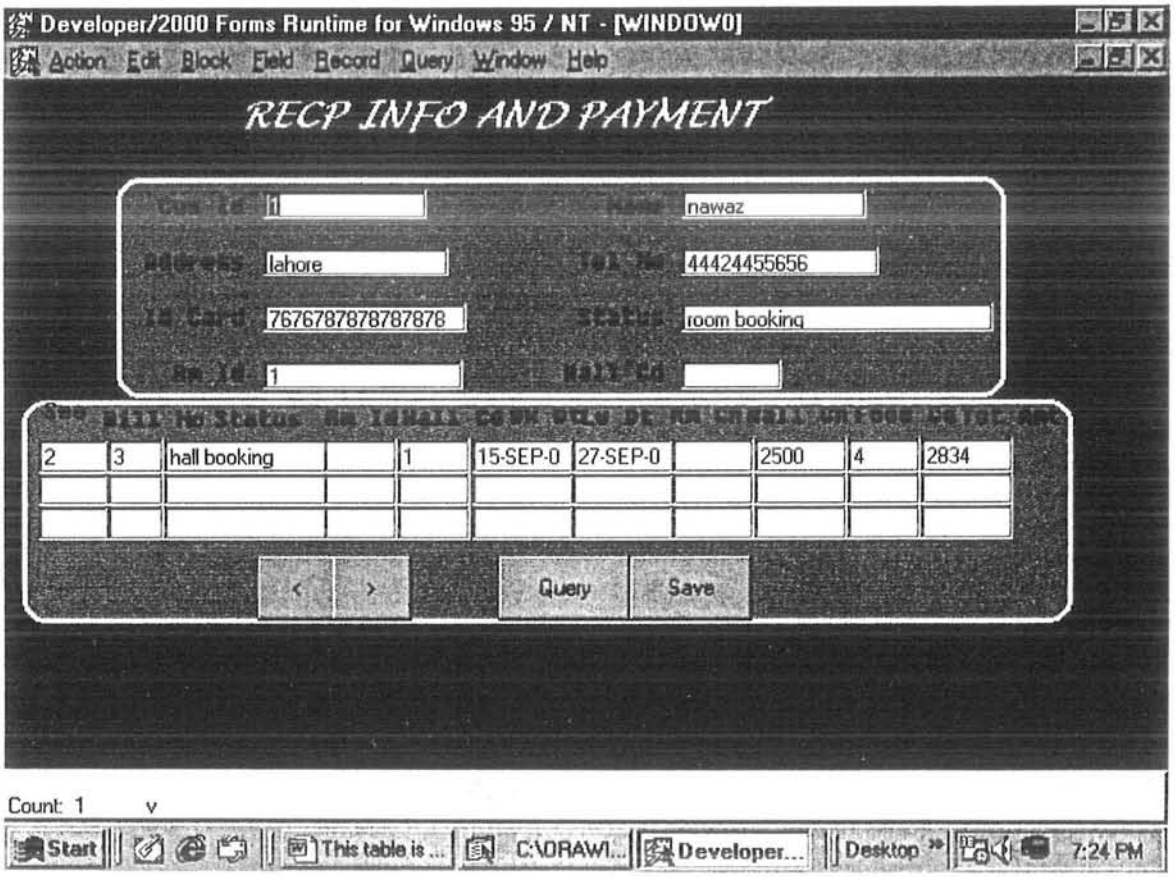
This table gives information about the employee and his/her duty and his/her details (Name, Address, Phone NO, date of joining, Shift and Date of duty).



This table tells us about the employee salary and details of the person such as Employee I.D, joining month, Basic pay, Income tax, Net pay, Overtime.

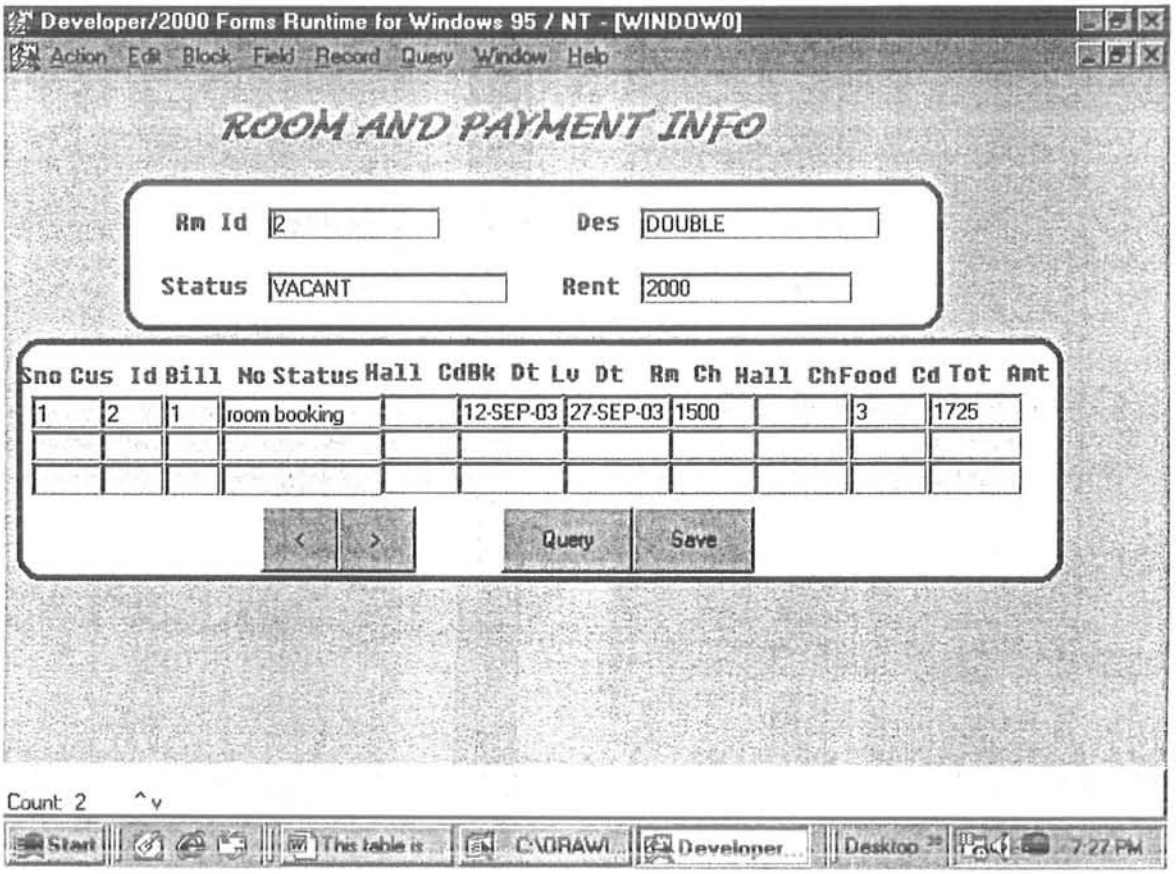


This table deals with the information regarding the bill date, food code, tip paid and total amount of dues paid.

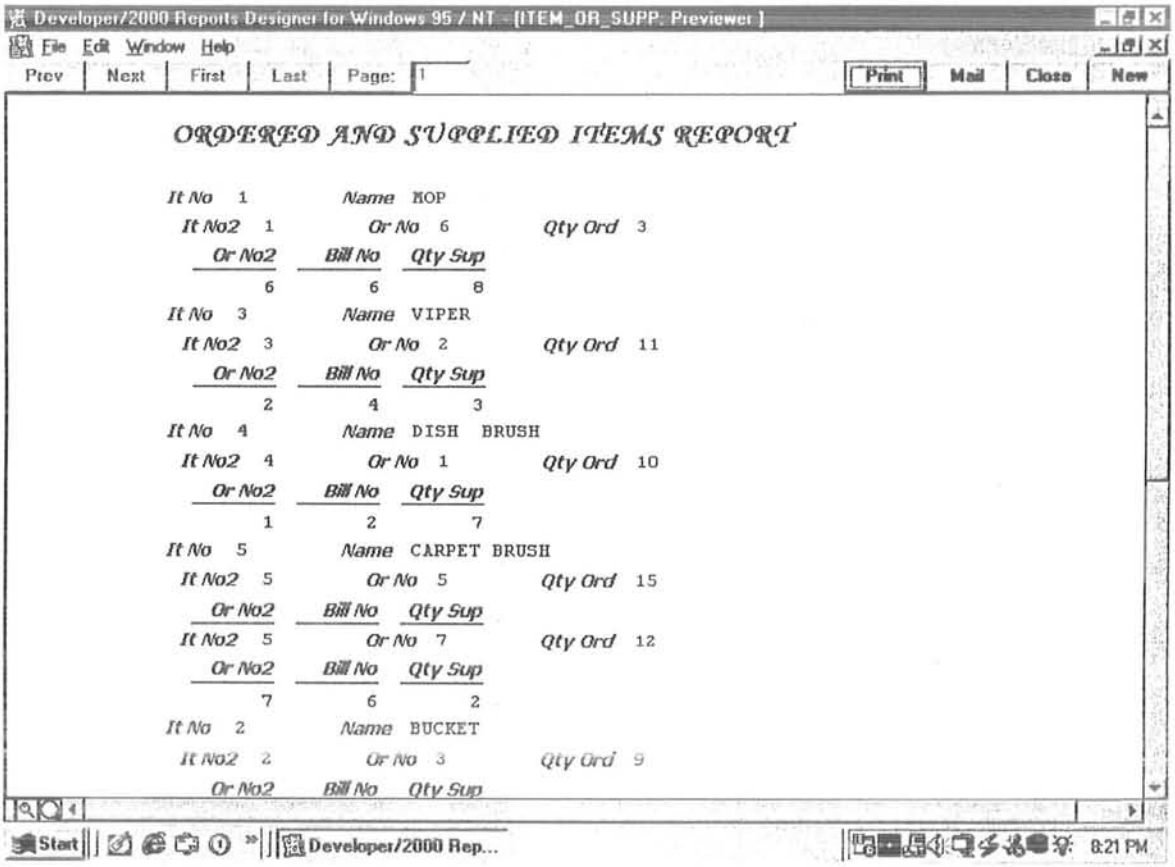


This table gives information about the customer I.D, his name, address, Phone number, I.D card number and status of his/her living

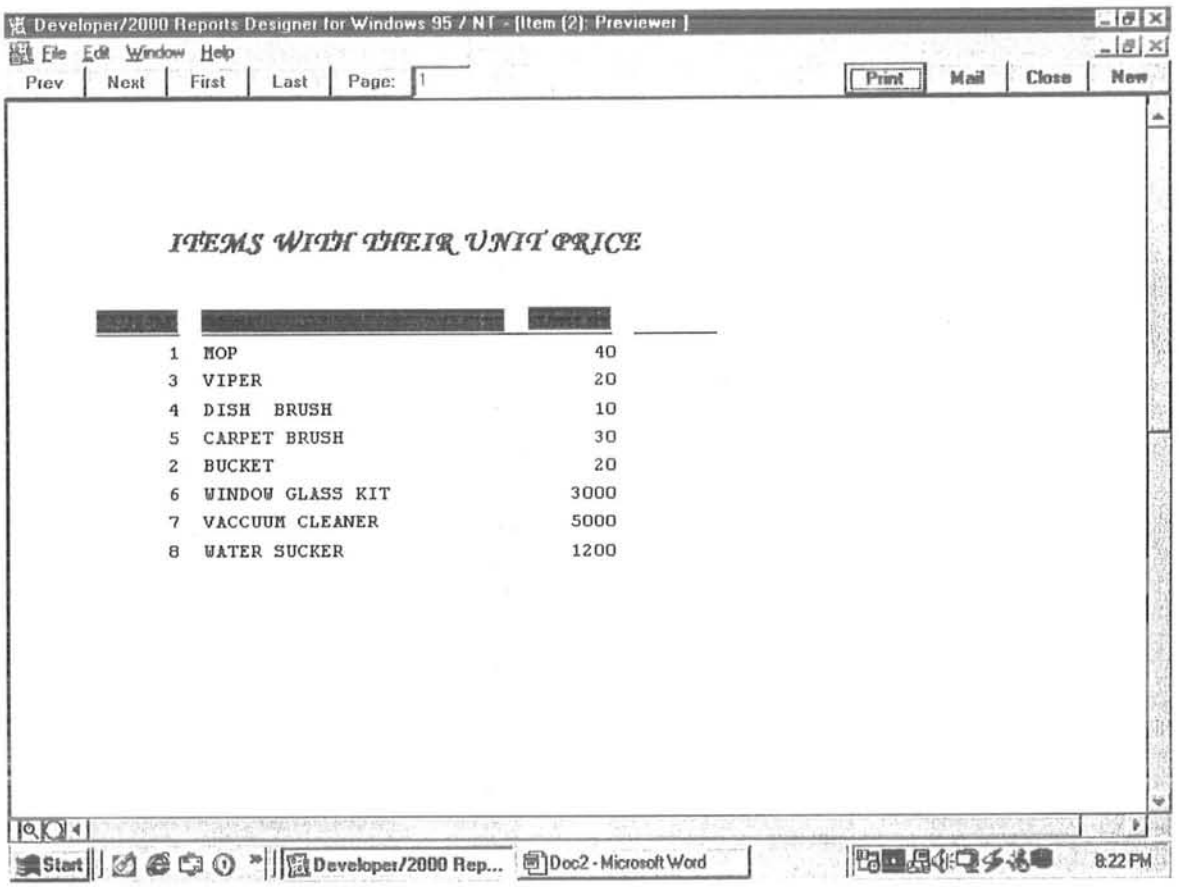
Appendix B



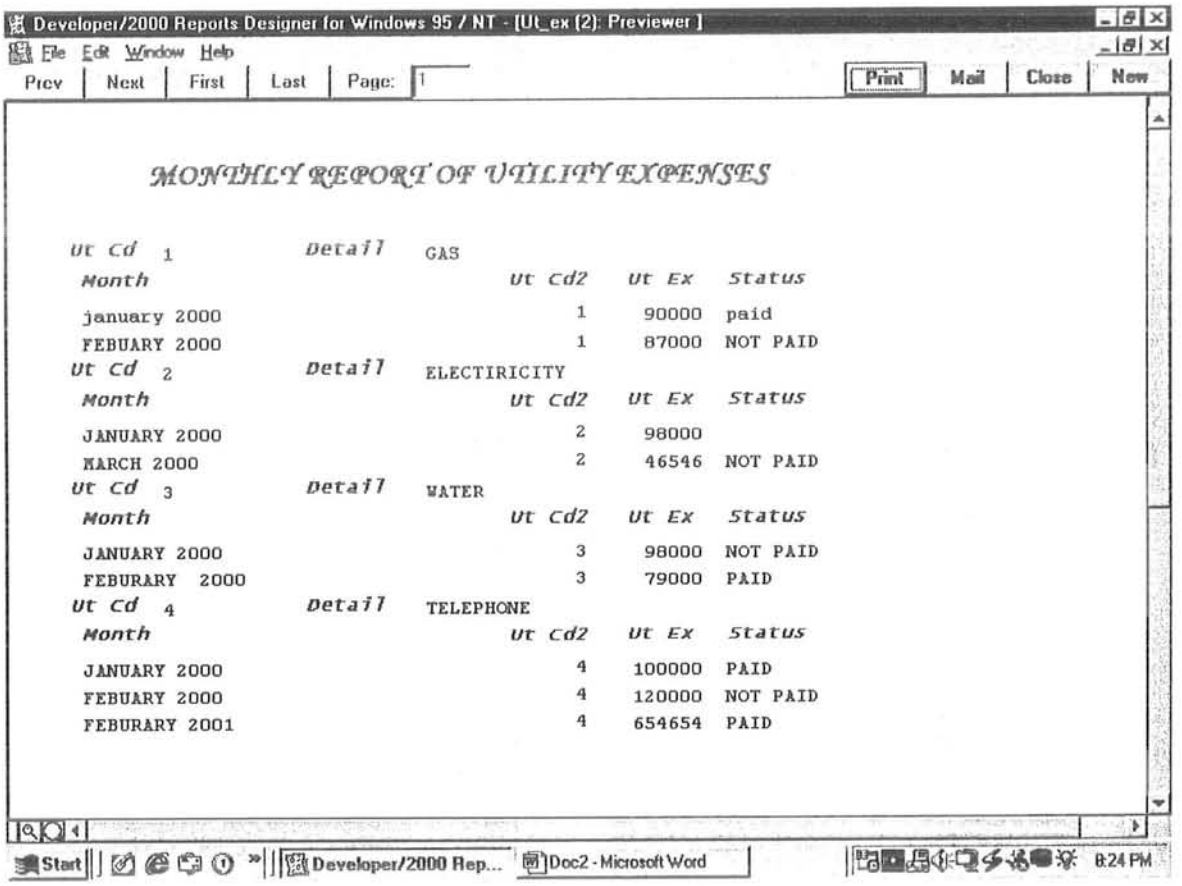
This table deals with the information regarding the rooms and their rents, the date of booking of rooms, date of leaving, food code and at the end total of amount of dues paid.



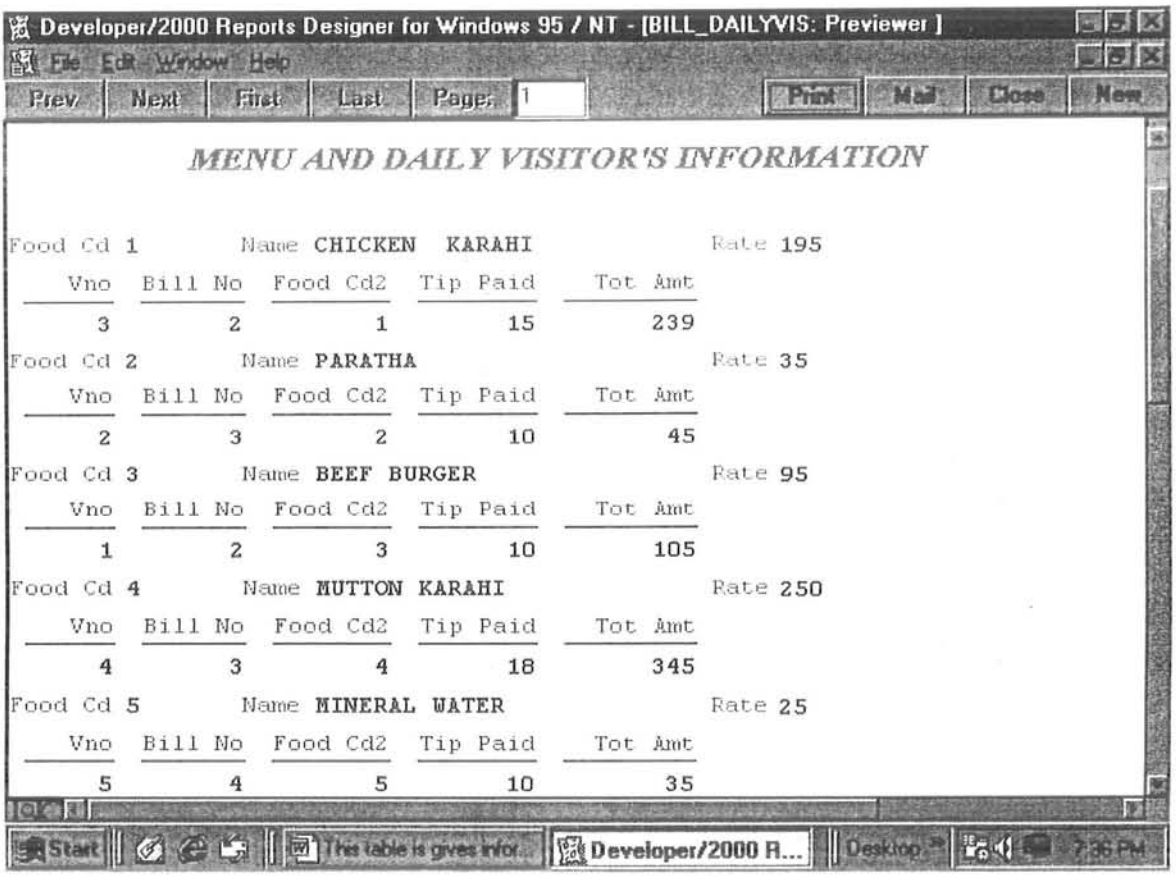
This is a matrix report that comprises information of the items, which mentioned in orders, the required quantity of items and supplied quantity of items.



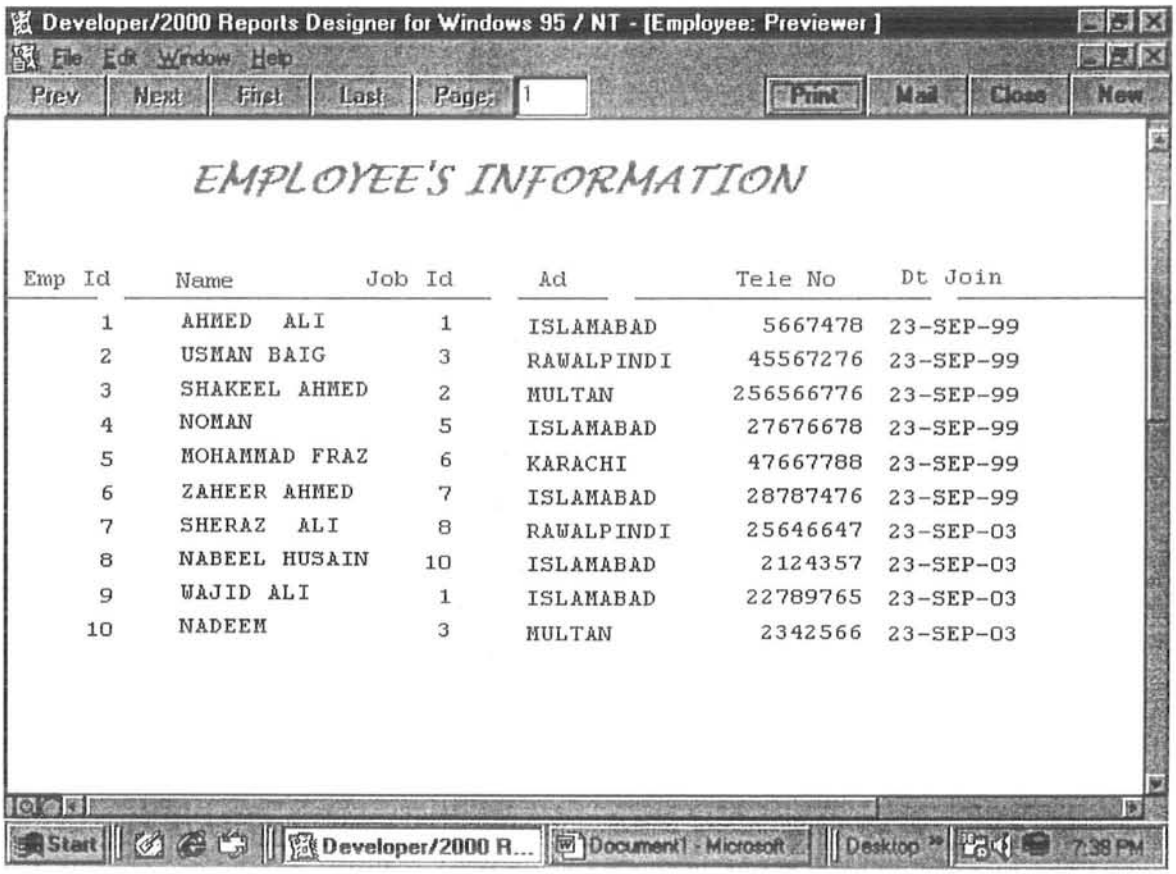
This report has the information about the items with their unit price. It is the form of tabular report.



The above report is master/detail-having information from two forms. It tells us about per month utility expenses and their status of being paid or not.



This is master/detail report having information about the bill paid by the visitor and the food that he took.


Developer/2000 Reports Designer for Windows 95 / NT - [Employee: Previewer]
File Edit Window Help
Prev
Next
First
Last
Page:
1
Print
Mail
Close
New
EMPLOYEE'S INFORMATION
Emp Id
Name
Job Id
Ad
Tele No
Dt Join
1 AHMED ALI 1 ISLAMABAD 5667478 23-SEP-99
2 USMAN BAIG 3 RAWALPINDI 45567276 23-SEP-99
3 SHAKEEL AHMED 2 MULTAN 256566776 23-SEP-99
4 NOMAN 5 ISLAMABAD 27676678 23-SEP-99
5 MOHAMMAD FRAZ 6 KARACHI 47667788 23-SEP-99
6 ZAHEER AHMED 7 ISLAMABAD 28787476 23-SEP-99
7 SHERAZ ALI 8 RAWALPINDI 25646647 23-SEP-03
8 NABEEL HUSAIN 10 ISLAMABAD 2124357 23-SEP-03
9 WAJID ALI 1 ISLAMABAD 22789765 23-SEP-03
10 NADEEM 3 MULTAN 2342566 23-SEP-03
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Appendix C

JOB

Job ID	Description

EMPLOYEE

Exp-ID	Job ID	Name	Add	Tele-No	Date-Join	Father-Name	ID Card

EMP DUTY

S. No	Exp-ID	Shift Time	Duty Date

OVERTIME

S. No	Exp- ID	Month	Job ID	Overtime Rate	Hours Worked	Overtime Amount

SALARY

S. No	Exp-Id	Month	Job-ID	Basic Pay	Allowance	Income Tax	Net Pay	Overtime Amount

COMPUTER BILL

Bill No	Bill Date

MENU

Food-Code	Name	Rate

VISITOR DAILY

V. No	Bill No.	Food Code	Total Amount	Tip Paid

ROOMS

Room ID	Location	Status	Rent

Hall Code	Detail	Capacity	Status

RECEPTION INFO

Cus-ID	Name	Add	Tele No	Id Card	Status	Room ID	Hall Code

PAYMENT

S. No.	Cus ID	Bill No	Status	Room ID	Hall Code	Booking Date	Leaving date	Room Charg	Food code	Taxes	Hall charge	Total Amount	Tip paid

HALL INFO

Infor Date	Hall Code	Status (booked un booked)

UTILITY BILLS

Utility Bills	Details

MISCELLANEOUS BILLS

Mis- Bills	Description

EXPENDITURES

S. No	Month	Ut code	Mis code	Ut exp	Mis Exp	Total Amount	Paid / Net Paid

ITEM

Item No.	Name	Unit Price	Total-Amount

ITEM STOCK

Stock Item	Item No.	Qty on Hand

ORDERS

Order No.	Item No.	Qty orders	Booking Date	Receiving Date	Status

BUDGET HEAD

Head Code	Detail

BUDGET

Head Code	Year	Month	Tot. Amount	Amount Consumed	Status

BILL

Bill No.	Bill Date

ITEM CONSUMED

Consumed Date	Item no	Qty Consumed

SUPPLIERS

Sup-code	Name	Add	Tele No.	ID card No.

ITEM SUPPLY

Recp-No.	Sup Code	Order No.	Bill No	Qty supplied