# A PROJECT REPORT
# ON
# "COMPUTERIZATION OF
# SCHOOL SYSTEM "



QUAID-I-AZAM UNIVERSITY

## BY

## ASAD ULLAH KHAN
## &
## MANZOOR ILAHI

## SESSION 2001-2002

## DEPARTMENT OF COMPUTER CENTRE
## QUAID-I-AZAM UNIVERSITY

COMPUTER CENTER OF QUAID-E-AZAM UNIVERSITY ISLAMABAD.

بِسْمِ اللهِ الرَّحْمٰنِ الرَّحِيْمِ

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# IN THE NAME OF

# ALLAH

## THE MOST GLORIOURS

## &

## THE MOST GENEROUS ONE
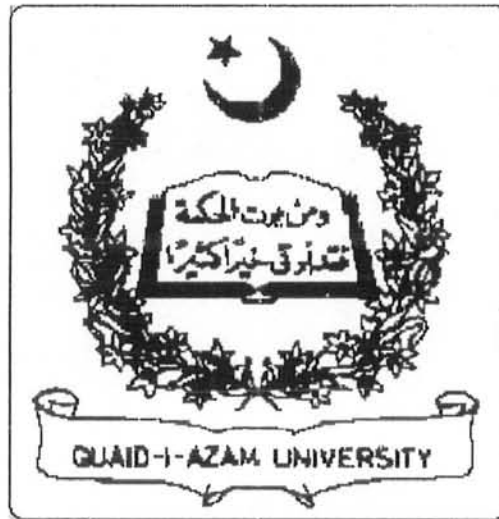
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# DEDICATION

WE DEDICATE THIS PROJECT TO OUR
PARENTS WHO SUPPORTED US THROUGH
OUR EDUCATIONAL CARRRIER AND OUR
TEACHER WHO ENCOURAGED AND
HELPED US IN OUR STUDY.

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# ACKNOWLEDGEMENTS

In the name of almighty ALLAH, the creator, the merciful, whatever in the heavens and earth say his praises, whose blessings enabled us to accomplish our Post Graduate Diploma degree in computer science.

Goal needs proper attention and continuous practice for achieving, the achievement will not be accomplished by a single person and not by beginners.

Our work would complete with intellectual support of our loving and sincere supervisor Mr. ABDUL SUBHAN.

we would like to thank all of our teachers, the Director and Laboratory staff of Quaid-e-Azam University department of computer center Islamabad.

Specially thanks to our sincere friend ASJAD MEHMOOD for their kind cooperation and valuable advises and suggestions throughout our system study.

MANZOOR ILAHI

ASAD ULLAH

COMPUTER CENTER OF QUAID-E-AZAM UNIVERSITY ISLAMABAD.

# APPROVAL

The project report submitted by

MANZOOR ILAHI

&

ASAD ULLAH

Is hereby approved and recommended as partial
fulfillment for the award of Post Graduate Diploma in
Computer Science.

EXTERNAL EXAMINER

SUPERVISOR.

ABDUL SUBHAN

Assistant Programmer QAU

DIRECTOR.

DR. GHULAM MUHAMMAD

QAU.

COMPUTER CENTER OF QUAID-E-AZAM UNIVERSITY ISLAMABAD.

# PROJECT BRIEF:

PROJECT TITLE :     COMPUTERIZATION OF
SCHOOL SYTEM

UNDER TAKEN BY :     MANZOOR ILAHI
ASAD ULLAH

SUPERVISED BY :     Mr. ABDUAL SUBHAN
Assistant programmer
Computer center of QAU.

LANGUAGE Used :     ORACLE with DEVELOPER 2000

**Documentation Tools :**     Microsoft Word 2000

SYSTEM USED :     Pentium 3 with 128 Mb Ram.

**Submitted as :**     Fulfillment for the PGD(CS)

**Submitted To :**     computer center of QAU IBD.

**Starting Date :**     July 25, 2002

**Completion Date :**     September 20, 2002

# CONTENTS

COMPUTER CENTER OF QUAID-E-AZAM UNIVERSITY ISLAMABAD.

# CHAPTER NO. 1.

# INTRODUCTION TO THE
# EXISTING SYSTEM

## 1.0 INTRODUCTION: -

The student information system is the most important system. Therefore it is required that such a system work efficiently, correctly and fast according to the requirement of 21st century.

In this Chapter we shall discuss about the existing manual system their demerits. Introduction to to the Project and objective of the project.

## 1.1 EXISTING STUDENT INFORMATION SYSTEM

The existing system deals about the student Admission, Attendance, Dues and Examination and second one is about teachers Information about the school. Such a complicated system is very difficult to run manually. Because there is need to maintain and access the records through files.

# WORKING OF THE EXISTING SYSTEM

In Pakistan mostly the student information system at school level are not computerized. So that a lot of problem arises. Here we discuss the steps of the existing system.

## ⇒ ADMISSION: -

The admission criteria in school are run by clerical staff, in which a lot of paper work and labor is required. Manually the students admit the admission form and these forms are placed in a separate register. And similarly they are assigning their class section and roll no. So for the access of a particular student manually there is very time consumed and there is doubt of misplace of files another very difficult job is to maintain the records of selected and rejected students.

## ⇒ ATTENDANCE: -

Manually the attendance of every student is recorded every day, in attendance criteria there is a separate register for every class and every section, which also require a lot of paper, time and labor. In order to check the max attendance or absence of any student it is very difficult job manually.

⇒ **TEACHER ATTENDANCE: -**

Similarly Teacher Attendance is also very important. For teacher attendance only one register is required. In both Attendances there is no description about the nature of leave.

⇒ **STUDENTS DUES: -**

The next more impartment subject is the management of student dues. Manually every student fill the challan form and submit it, for student dues also a lot of paper and labor is required, manually it is also difficult to access the dues Information about every student.

⇒ **STUDENT ACTIVITIES: -**

In every school from different classes the students take part in different activities, for example Games, Tours, Debates, etc. The Information about any student is recorded manually on paper.

⇒ **EXAMS: -**

Next most Important activity is the students which have to be done by every student is the student exams. Student of particular class in their related subjects gives their exams in which the teacher of that related subject prepare the result and the school issue the result card to every student in which their related subject marks and status, Grade and the total marks obtained are mentioned so to prepare this result card is a very careful and difficult job.

⇒   **TEACHER SALARY: -**

At the end of every month there is need to pay salary to each teacher .the net salary of every teacher is calculated by use arithmetic calculations that are Allowances, deduction, Net salary which is calculated manually. Table Name:

# DEMERITS OF THE EXISTING SYSTEM: -

As the existing system is manual so there are many difficulties and problems, which are, discuss bellow.

⟹ **SECURITY: -**

There is no security for the existing manual system. Any one can see the files i.e. no password, no user restrictions etc.

⟹ **EFFICIENCY: -**

A large no of paper files have to be maintained to keep the information about student. Whenever a particular request is searched a lot of time is consumed. This action minimizes the efficiency of the existing system.

⟹ **BACK UP COPY: -**

There is no back up copy of any record. Some time record may be lost which create a problem.

⟹ **TIME CONSUMPTION: -**

Some time the number of requests increases with the passage of time. As the system is manual. So there is problem to access, update and insert records, because it takes a lot of time.

⇒ **MORE SPACE, STATIONARY AND MANPOWER: -**

For the existing system we need a lot of space for the record, a lot of stationary to write that record and also manpower because a one computer can work fastly as compared to many persons.

⇒ **INTRODUCTION TO PROJECT: -**

The world is switching towards computerized systems, as they provide a better and more efficient way for data manipulation. This project is being carried out in order to fulfill the need of computerization of student information system.

# OBJECTIVES OF THE PROJECT.

The objective is to develop an efficient S/W for student information i.e. the project aims to develop a stable and reliable system which reduces the unnecessary steps and provide an efficient environment to the user of the system and fulfilling the user requirements. An addition to this to develop a system which solves the problems facing by the existing system and introducing an organized way of marinating the information security is provide by this system also the information is stored in such a way that no space is wasted and any record can be retrieved successful and efficiently.

# CHAPTER NO. 2.

# PROPOSED SYSTEM

## INTRODUCTION:

In the existing system there are many problems, which is facing by the existing system. For solving these problems we have To proposed a system, which solves all the problems. As mentioned Earlier that this proposed system is a computerized systemize. In this System we have to make the software, which solve all the problems. For the proposed system first of all it is necessary to define the Scope of the proposed system or scope of the project.

## SCOPE OF THE PROPOSED SYSTEM/PROJECT:

Scope of the proposed system is to design an efficient and errorless student Information system. The proposed system will be capable to keep the data About the student admission, student attendance, student dues, student external Activities, examination, teacher, teacher qualification, salary, teacher external duties And so on.

# OBJECTIVES OF THE PROPOSED SYSTEM

1. To maintain information in a systematic manner such that the Data redundancy is removed.
2. To decrease the time for file access and file retrieval i.e. The system Is efficient.
3. To develop a system in which there is no chance of accidental input of invalid data i.e. There some check on the inputting data.
4. To develop a system, which easy to use. It should generate appropriate Message to alert the user if the take wrong step.
5. To provide the consistency in the whole database.
6. To develop a system which flexible enough to accept the changes in the future i.e. Have the maintenance.
7. To develop a system, which has security i.e. only, authorized user can access the system.
8. To develop a system, which has a backup copy.
9. To develop a system for which there is no requirement of more space, Stationary and manpower.

## Soft ware AND Hard ware SELECTION:

**Software SELECTION**: there are three aspects of a DBMS, which are Inputs, outputs and the programs that manage all the operation and Storage of information besides this programming is also important. Because it controls both the input and output as well as storage of The information inside the database. Thus it very important to choose a suitable s/w,while keeping in mind all the aspects of problems from any analyst point of view oracle/developer 2000 seems to be the most Appropriate for the development of this project.

**Hardware SELECTION:** following h/w will be used in the development of
The system.

| | |
|---|---|
| Main processor model | genuineintel |
| | 86  family 6 model 8 stepping |
| Ram | 128 MB |
| Hard disk...................... | 20 GB |
| Monitor | Sony multiscan E200 |
| Printer. | Desk jet |

# Why oracle use?

The oracle use due to the following reasons.

1.  ## RELATIONAL DATABASE LANGUAGE: -

    Structure Query language is relational database language plays an important role in the retrieval of information. Oracle fully supports the SQL language, which means that an application developed in oracle can also run with SQL based DBMS products.

2.  ## OBJECT ORIENTED APPROACH: -

    in programming world, object oriented analysis approach is the finest, advanced and reliable approach. All the work in oracle/developer 2000 is done using object oriented approach.

3.  ## BUILT IN SECURITY: -

    Oracle provides an adequate number of built in subprograms, in the context of security, that are quite useful at the time of system development. These built-in save a lot of programmer's times.

4.  ## MACHINE INDEPENDENCE: -

    Oracle is a machine independent i.e. it can be installed and run on a variety of machine such as IBM, MACINTOSH, and NEC etc.

5.  ## DISTRIBUTED ARCHITECTURE: -

    Because of oracle's distributed architecture it allows data and application to lie on multiple computers and still communicate very efficiently.

# CHAPTER NO. 3.

# SYSTEM DESIGN

Design is an activity concerned with making major decisions often of a structural nature. It shares a concern for obstructing information representation and processing sequences, but the level of detail is quite different at extreme. Design builds planned representation of programs that concentrate on the interrelationship of parts at the higher level and logical operations involved at the lower level.

Design of system is concerned with the following.

- Input.
- Output.
- Database.

# 3.1 INPUT DESIGN: -

In reference of input design, four common design issues always surface. System response time, user help facilities, error information handling and exception handling.

⇒ **CHOICE LIST: -**

When a particular field has more than one value, choice list is used. This choice list is adopted for the ease of operator, and further to avoid confusion in data entry for fields.

⇒ **POP UP LISTS: -**

A pop up displays a fixed number of elements. At run time, the operator can choose a single element.

⇒ **CHECK BOX: -**

A check box is a two state control that indicates whether a certain condition or value is on or off, true or false.

⇒ **PASSWORDS: -**

A password will be implemented for security purposes. Whenever a user will login, He/She will have to enter their password i.e. system can used by only authorized user.

⇒ **EXCEPTION HANDLING: -**

Exceptions are handled as user commits a mistake, an error message is also displayed on the screen e.g. when user want to delete a parent record, a message is displayed to give warning that all the child record will also be deleted.

⇒ **INPUT VALIDATION: -**

When the user enter the data then it check by the system i.e. it valid or not valid data.

⇒ **MODIFICATION AND DELETION: -**

No system is complete until it is provided with the facility of modification and deletion. Often user input records with some error or the record they do not want to place at first position. Therefore system provides the modification and deletion facilities.

# BRIEF DESCRIPTION OF FORMS: -

Brief descriptions about the forms prepared for the system are given below.

- **CLASS: -**

  This form is used about the information of class, i.e. how many classes are in particular school.

- **SECTION: -**

  This form is used about the information of section i.e. how many sections are in particular class.

- **STUDENT: -**

  This form is used about the information of student i.e. how many students are in particular section, their name address etc.

- **STUDENT ATTENDENCE: -**

  This form is about the student attendance. That is how many students were present at particular date. What is the maximum attendance of a particular student? How many students are absent at a particular date.

- **STUDENT DUES: -**

    This form is about the students monthly dues that is how many students have submitted dues at particular month and how many students have not submitted.

- **EXAMINATION: -**

    This form is about the student examination, date etc. that is how many students are appear in the examination.

- **TEACHER: -**

    This form is about the teacher record, name, address.

- **SALARY: -**

    This form is about the teacher salary. That is what is basic pay, allowance, deductions and net pay.

- **TEACHER QUALIFICATION: -**

    This form is about the teacher qualification.

# 3.2 OUTPUT DESIGN: -

The output of the system can be in one of two forms which are queries or reports. Queries are usually screen oriented and reports are in printed form.

# REPORTS

In the student information some reports are discussed below:

## ATTENDANCE REPORT:

This report is about the student attendance .in this report there are eight columns which are attendnce_id , time , date , class_name, section_name , student-name , roll no , status.

## DUES REPORT:

This report is about the dues of a student there are many columns in this report which are due_id, class_name, section_name, student name , amount ,date , status. In this report there is also there is a total sum of the dues of the particular student at a particular month.

## ACTIVITY REPORT:

This report is about the student external activities. in this report there are many columns which are activity_id , class_name , section_name , student name , date of start , date of end .

## RESULT REPORT: this report is about the student result there are many columns in this report which are srno , class_name , section_name , student name , subject name , total marks , marks obtain , status , date.

There is also given sum of the total marks and marks obtain and average of the marks obtained.

## QUALIFICATION REPORT:

This report is about the teachers qualification there are many columns in this report which are qulification_id, teacher name , qualification name , name of institution , total marks , marks obtain , year of passing .there is also given the sum of the total marks , and marks obtained.

## SALARY REPORT:

This report is about the teacher salary there are many columns in this report which are salary_id, teacher name, basic pay , allowances , deduction , net pay , date. There is also given the sum of the basic pay, allowances, deduction, and net pay.

## QUERRY GENERATION: -

The proposed system fully supports the query. The user input the value in a particular field by using Query → Enter mode then the system it self execute the query by using Query → Execute mode.

# 3.3 DATABASE DESIGN: -

Database engineering is a technical discipline that is applied once the information domain of the database has been defined. Therefore, the role of the system engineer is to define the information to be contained in a database, the type of queries to be submitted for processing, the manner in which data will be accessed, and capacity of the database. All the points mentioned above are taken into account during database design. At the back and data is stored in tabular form.

# E.R.D AND TABLES
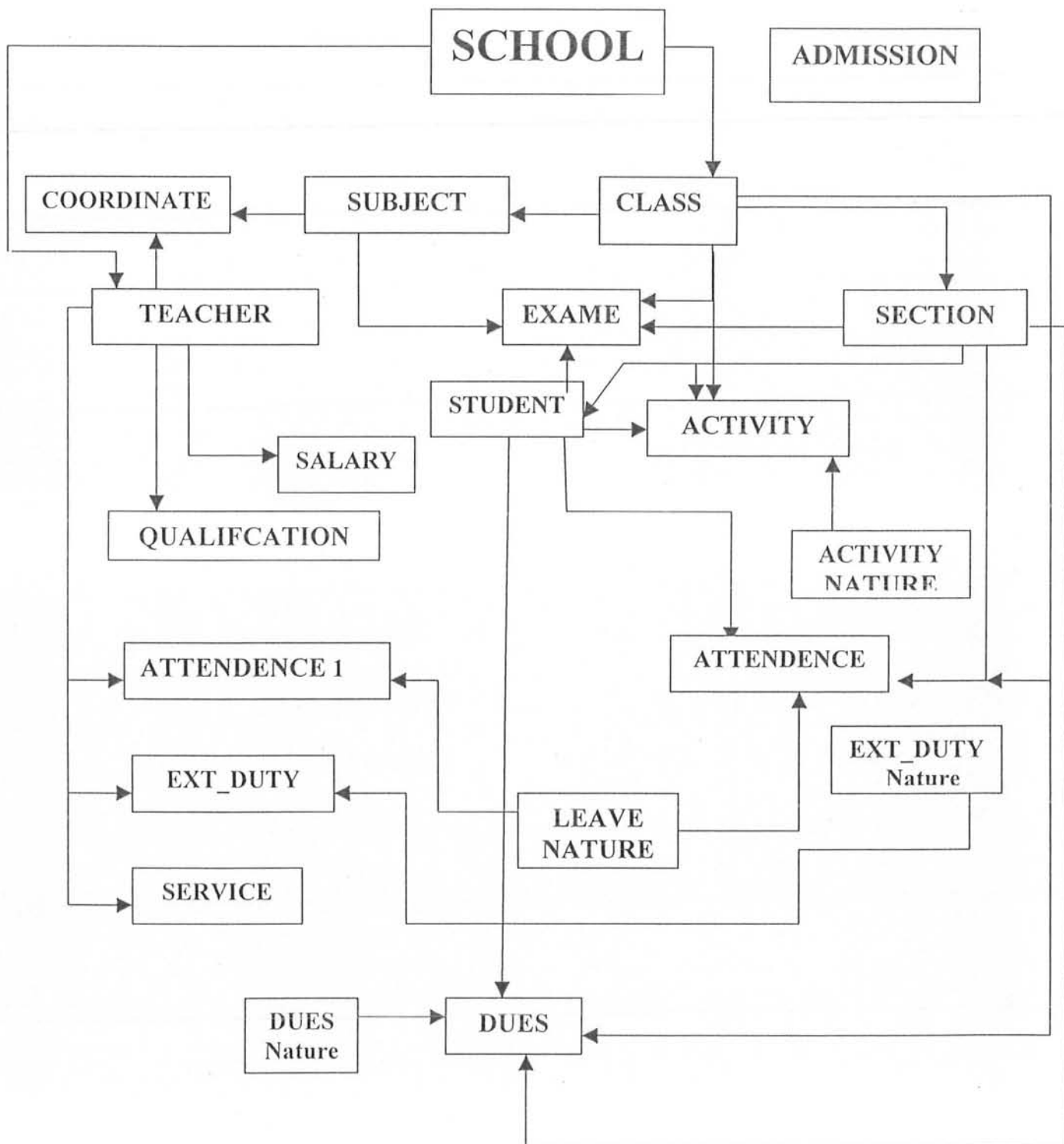
# ENTITY RELATIONSHIP DIAGRAM
# OF SCHOOL SYSTEM

TABLE : -          SCHOOL.
PRIMARY KEY       SCHOOL_ID

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SCHOOL_ID | NUMBER | 5 | PRIMARY KEY |
| SCH_NAME | CHAR | 20 | |
| LOCATION | CHAR | 30 | |

EXPLANATION VARIABLE: -
SCH_NAME                    SCHOOL NAME

## BRIEF DESCRIPTION : -

This table is used for the school identity. In this table we can access any school and we can inquire that school where is situated.

**TABLE : -**           CLASS
**PRIMARY KEY:**       CLASS_ID
**REFERENCE KEY:**     SCHOOL_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| CLASS_ID | NUMBER | 5 | PRIMARY KEY |
| CLASS_NAME | CHAR | 20 | |
| SCHOOL_ID | NUMBER | 5 | REFERECE KEY |

## BRIEF DESCRIPTION : -

This table is used for the identity of class. This table is also used for the class name. In this way we can enhance our queries. This table has a foreign key. This table has one to many relations with the school table. Because one school has many classes.

TABLE : -           SECTION
PRIMARY KEY:       SECTION_ID
REFERENCE KEY:     CLASS_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SECTION_ID | NUMBER | 5 | PRIMARY KEY |
| SECT_NAME | CHAR | 20 | |
| CLASS_ID | NUMBER | 5 | REFERECE KEY |

**EXPLANATION:**
SECT_NAME        SECTION NAME

# BRIEF DESCRIPTION : -

This table is used for the identity of section. This table is also used for the section name. In this way we can enhance our. This table has a foreign key. That is class_id. This table has one to many relations with the class table. Because one class has many section.

TABLE : -         ATTENDANCE
PRIMARY KEY:        ATTEND_ID
REFERENCE KEY'S:    CLASS_ID,       SECTION_ID,
STUDENT_ID , LEAVE_ID

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| ATTEND_ID | NUMBER | 5 | PRIMARY KEY |
| STUDENT_ID | NUBMER | 5 | REFERENCE KEY |
| CLASS_ID | NUMBER | 5 | REFERNECE KEY |
| SECTION_ID | NUMBER | 5 | REFERENCE KEY |
| LEAVE_ID | NUMBER | 5 | REFERENCE KEY |
| DATE1 | DATE | | |
| TIME1 | CHAR | 20 | |
| STATUS4 | CHAR | 5 | |

## BRIEF DESCRIPTION : -

This table is used for the attendance of the students. This table is also used for the daily attendance of the students. With the help of this table we can observe that any specific class have how much strength. As well as we can observe any section of any class have how much strength. This table has four reference keys that provide help for making different quarries. This table has one to many relations with the student table, class table, section table, and leave table. Variables date1, time1 are use for current date for the attendance of the student. Status is use for the student whether present or absent.?

TABLE : -                  LEAVE_NATURE
PRIMARY KEY:         LEAVE_ID
REFERENCE KEY:      NULL.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| LEAVE_ID | NUMBER | 5 | PRIMARY KEY |
| STATUS1 | CHAR | 30 | |

## BRIEF DESCRIPTION : -

This table is used for the identity of leave. This table is also used for the status of the leave. With help of this table we can know that what is the status of the leave. In this way we can enhance our queries.

TABLE : -     DUES
PRIMARY KEY:    DUES_ID
REFERENCE KEY:   DUES_ID, SECTION_ID, CLASS_ID,
         STUDENT_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| DUE_ID | NUMBER | 5 | PRIMARY KEY |
| DUES_ID | NUMBER | 5 | REFERENCE KEY |
| STUDENT_ID | NUMBER | 5 | REFERENCE KEY |
| CLASS_ID | NUMBER | 5 | REFERENCE KEY |
| SECTION_ID | NUMBER | 5 | REFERENCE KEY |
| AMOUNT | NUMBER | 5 | |
| DATE2 | DATE | | |

## BRIEF DESCRIPTION : -

This table is used for the dues of the students. This table is also used for the dues of the students. With the help of this table we can observe that any specific student has paid how much dues during specific period. As well as we can observe any student of any section of any class has paid dues during specific period. This table has four reference keys that provide help for making different quarries. This table has one to many relations with the student table, class table, section table, and dues nature table. Variables date2 is use for current date for the payment of dues of the student. And variable amount is use for the submission of total dues.

TABLE : -                    DUES_NATURE
PRIMARY KEY:            DUES_ID
REFERENCE KEY:            NULL.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| DUES_ID | NUMBER | 5 | PRIMARY KEY |
| STATUS2 | CHAR | 30 | |

## BRIEF DESCRIPTION : -

This table is used for the identity of dues nature. This table is also used for the status of the dues. With help of this table we can know that what is the status of the dues. In this way we can know why these dues are submitted.

TABLE : -                      ACTIVITY
PRIMARY KEY:                   ACT_ID
REFERENCE KEY:                 ACTIVITY_ID,        STUDENT_ID,
                               CLASS_ID, SECTION_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| ACT_ID | NUMBER | 5 | PRIMARY KEY |
| ACTIVITY_ID | NUMBER | 5 | REFERENCE KEY |
| STUDENT_ID | NUMBER | 5 | REFERENCE KEY |
| CLASS_ID | NUMBER | 5 | REFERENCE KEY |
| SECTION_ID | NUMBER | 5 | REFERENCE KEY |
| F_DATE | DATE | | |
| T_DATE | DATE | | |

EXPLANATION:
F_DATE          FROM DATE
T_DATE          TO DATE.

## BRIEF DESCRIPTION : -

This table is use for the student's external activities. That is games, tours and debates etc. with the help of this table we can observe how much students are involve in external activities. As well as we can observe any student of any class of any section take part in particular activity. This table has four reference keys that provide help for making different quarries. This table has one to many relations with the student table, class table, section table, and activity nature table. Variables from date is use for that date from which activity start. Variable to date is that date to which the activity ends.

TABLE : -             ACTIVITY_NATURE
PRIMARY KEY:         ACTIVITY_ID
REFERENCE KEY:            NULL.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| ACTIVITY_ID | NUMBER | 5 | PRIMARY KEY |
| STATUS3 | CHAR | 30 | |

## BRIEF DESCRIPTION : -

This table is used for the identity of activity nature. This table is also use for the activity nature. With the help of this table we can know the description of the any activity.

TABLE : -                 EXAME
PRIMARY KEY:        SRN
REFERENCE KEY:      CLASS_ID,SECTION_ID,
                      STUDENT_ID, SUBJECT_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SRN | NUMBER | 5 | PRIMARY KEY |
| CLASS_ID | NUMBER | 5 | REFERENCE KEY |
| SECTION_ID | NUMBER | 5 | REFERENCE KEY |
| SUBJECT_ID | NUMBER | 5 | REFERENCE KEY |
| STUDENT_ID | NUMBER | 5 | REFERENCE KEY |
| TOTAL_MARKS | NUMBER | 5 | |
| MARKS_OBTAINED | NUMBER | 5 | |
| STAT | CHAR | 5 | |
| DATE1 | DATE | | |

EXPLANATION:
SRN                  SERIAL NO.
STAT               STATUS.

## BRIEF DESCRIPTION : -

       This table is used for the EXAMS of the students. The primary key of this tables that is serial number (SRN) With the help of this table we can observe that how much students appear in the examination. With the help of this table we can observe that any specific student of a specific class and specific section has got how much marks of how much total marks. And what is the status of the student. date1 is a variable that is use for the current system date.

**TABLE : -**                       **SUBJECT**
**PRIMARY KEY:**              **SUBJECT_ID**
**REFERENCE KEY:**           **CLASS_ID.**

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SUBJECT_ID | NUMBER | 5 | PRIMARY KEY |
| CLASS_ID | NUMBER | 5 | REFERENCE KEY |
| SUB_NAME | CHAR | 30 | |

## BRIEF DESCRIPTION : -

This table is used for the identity of the subjects. This table is providing full information about the subject. This table has a foreign key that is class_id. This foreign key is access from the class table. Because any subject is taught in a specific class. This table has a variable sub_name for the subject name. This variable provides full description of the subject. This table has one to many relationships with the class.

TABLE : -               COORDINATE
PRIMARY KEY:            CORD_ID
REFERENCE KEY:          TEACHER_ID, SUBJECT_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| CORD_ID | NUMBER | 5 | PRIMARY KEY |
| TEACHER_ID | NUMBER | 5 | REFERENCE KEY |
| SUBJECT_ID | NUMBER | 5 | REFERENCE KEY |
| STATUS5 | CHAR | 30 | |

EXPLANATION:
CORD_ID                 COORDINATE_ID.

## BRIEF DESCRIPTION : -

This table is coordinate of two tables that are teacher table and subject table. This table is necessary because one teacher can teach many subjects and one subject can teach many teachers. Thus, basically subject and teacher have many to many relationships with each other. The primary key of this table is cord_id that's mean coordinate identity. This table has two references keys one is subject _id for the subject and second one is teacher_id.

TABLE : -  TEACHER
PRIMARY KEY:  TEACHER_ID
REFERENCE KEY:  SCHOOL_ID.

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| TEACHER_ID | NUMBER | 5 | PRIMARY KEY |
| SCHOOL_ID | NUMBER | 5 | REFERENCE KEY |
| T_NAME | CHAR | 20 | |
| ADDRESS | CHAR | 30 | |
| TEL_NUMBER | CHAR | 10 | |

EXPLANATION:
T_NAME  TEACHER NAME
TEL_NUMBER  TELEPHONE NUMBER

## BRIEF DESCRIPTION : -

This table gives you the entire teacher list. And also they're belonging to the particular school. This table has a foreign key that is school_id. For the consent of the key we can know any specific school has how much teacher. Variables teacher name, address and telephone number give full detail of the any specific teacher.

**TABLE : -** ATTENDENCE1
**PRIMARY KEY:** ATTEND1_ID
**REFERENCE KEY:** TEACHER_ID

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| ATTEND1_ID | NUMBER | 5 | PRIMARY KEY |
| TEACHER_ID | NUMBER | 5 | REFERENCE KEY |
| LEAVE_ID | NUMBER | 5 | REFERENCE KEY |
| DATE1 | DATE | | |
| TIME1 | CHAR | 8 | |
| STATUS | CHAR | 3 | |

## BRIEF DESCRIPTION : -

This table is used for the attendance of the teachers. This table is also used for the daily attendance of the teachers. With the help of this table we can observe that any specific school have how much strength. This table has two reference keys that provide help for making different quarries. This table has one to many relations with the teacher table, and leave nature table variables date1 and time1 use for the current date and time of teacher. Status is use for the attendance of teacher whether present or absent.

TABLE : -  QUALIFICATION
PRIMARY KEY:  QUAL_ID
REFERENCE KEY:  TEACHER_ID

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| QUAL_ID | NUMBER | 5 | PRIMARY KEY |
| TEACHER_ID | NUMBER | 5 | REFERENCE KEY |
| QUAL_NAME | CHAR | 10 | |
| FROM1 | CHAR | 25 | |
| YEAR_OF_QUALI | NUMBER | 4 | |
| MARK_OBTAIN | NUMBER | 4 | |
| TOTAL_MARKS | NUMBER | 4 | |

EXPLANATION:
QUAL_NAME  QUALIFICATION NAME

## BRIEF DESCRIPTION : -

This table is use for the teacher's qualification. With the help of this table we can access any with full detail of his qualification. This table has a reference key that is teacher id. Variable qualification name shows the degree he hold and variable from1 means form which institution he got the degree.

**TABLE : -**          **SERVICE**
**PRIMARY KEY:**      **SERVICE_ID**
**REFERENCE KEY:**      **TEACHER_ID**

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SEVICE_ID | NUMBER | 5 | PRIMARY KEY |
| TEACHER_ID | NUMBER | 5 | REFERENCE KEY |
| GRADE | NUMBER | 5 | |
| DATE_OF_APP | DATE | | |
| COMING_DATE | DATE | | |
| OUTGOING_DATE | DATE | | |

## BRIEF DESCRIPTION : -

This table is use for the service record of teachers. In this table there is one reference key which is teacher_id, in which every teacher has a grade and date of appointment of teachers in a particular school, their joining date and their date of transfer.

**TABLE : -**                  **SALARY**
**PRIMARY KEY:**            **SALARY_ID**
**REFERENCE KEY:**         **TEACHER_ID**

| VARIABLE NAME | DATA TYPE | LENGTH | DESCRIPTION |
|---|---|---|---|
| SALARY_ID | NUMBER | 5 | PRIMARY KEY |
| TEACHER_ID | NUMBER | 5 | REFERENCE KEY |
| BASIC_PAY | NUMBER | 6 | |
| ALLOWNCES | NUMBER | 5 | |
| DEDUCTION | NUMBER | 5 | |
| NET_PAY | NUMBER | 6 | |
| DATE1 | DATE | | |

## BRIEF DESCRIPTION : -

      This table is use for the salary record of teachers. In this table there is one reference key that is teacher_id, in which he is assigning the basic pay, deduction, allowances and after calculation their net pay. The date1 means from which date he receive salary.

# FORMS

# MAIN SWITCH BOARD

Action  Edit  Query  Block  Record  Field  Window  Help

## *MAIN MENUE*

FOR ENTERING TO THE SEARCHING          click here
                         FORMS CLICK

FOR ENTERING TO THE DATA ENTERY        click here
                         FORMS CLICK

FOR QUERY FORM          CLICK HERE      click here

REPORT FORMS                            click here

Record: 1/1

# SWITCH BOARD OF SEARCHING FORM

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]

Action  Edit  Query  Block  Record  Field  Window  Help

*SEARCHING OF FIVE TABLES*      click here
*TO ENTER CLICK THE BUTTON*

*SEARCHING OF FOUR TABLES*      click here
*TO ENTER CLICK THE BUTTON*

*SEARCHING OF THREE TABLES*     click here
*TO ENTER CLICK THE BUTTON*

*SEARCHING OF TWO TABLES*       click here
*TO ENTER CLICK THE BUTTON*

Record: 1/1

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# SWITCH BOARD OF SEARCHING FORMS OF 5 TABLES



# MASTER DETAIL OF 5 TABLES

# SEARCHING FORM OF 3 TABLES

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]

Action  Edit  Query  Block  Record  Field  Window  Help

SEARCHING OF SCHOOL,CLASS, SECTION CLICK ──→   [click here]

SEARCHING OF CLASS,SECTION, STUDENT CLICK ──→   [click here]

SEARCHING OF SECTION,STUDENT ATTENDANCE CLICK ──→   [click here]

SEARCHING OF SECTION,STUDENT DUES CLICK ──→   [click here]

SEARCHING OF SECTION,STUDENT, EXTERNAL ACTIVITY CLICK ──→   [click here]

SEARCHING OF SCHOOL,CLASS, SUBJECT CLICK ──→   [click here]

SEARCHING OF CLASS,SUBJECT, COORDINATE CLICK ──→   [click here]

SEARCHING OF CLASS,SUBJECT EXAME CLICK ──→   [click here]

SEARCHING OF SCHOOL,CLASS, EXAME CLICK ──→   [click here]

SEARCHING OF CLASS,SECTION, EXAME CLICK ──→   [click here]
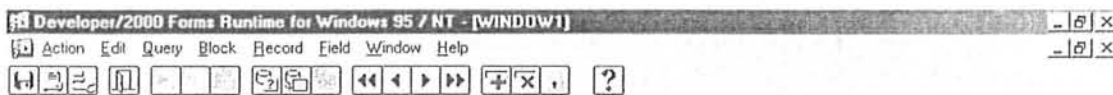
Record: 1/1

# MASTER DETAIL OF 3 TABLES

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]

Action  Edit  Query  Block  Record  Field  Window  Help

## SCHOOL
School Id
School Name
Location

## CLASS
Class Id
Class Name
School Id

## EXAME
Srn  Exame No  Class Id
Student Id  Date1  Section Id  Marks Obtained
Stat  Subject Id  Total Marks

Record: 1/1

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# SEARCHING FORM 4 TABLES



# MASTER DETAIL OF 4 TABLES

# SEARCHING FORM OF 2 TABLES

*SEARCHING OF TWO TABLES*
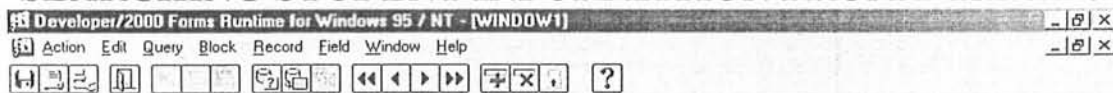*ABOUT STUDENTS CLICK BUTTON*

click here

*SEARCHING OF TWO TABLES*
*ABOUT TEACHERS CLICK BUTTON*

click here

Record: 1/1

# SEARCHING STUDENT INFORMATION FROM 2 TABLES

*SEARCHING FOR STUDENT INFORMATIN OF TWO TABLES*

| | | |
|---|---|---|
| SEARCHING OF SCHOOL CLASS CLICK---> [click here] | SEARCHING OF STUDENT DUES CLICK---> click here | SEARCHING OF CLASS EXAME CLICK---> click here |
| SEARCHING OF CLASS SECTION CLICK---> click here | SEARCHING OF DUES_NATURE DUES CLICK---> click here | SEARCHING OF SUBJECT COORDINATE CLICK---> click here |
| SEARCHING OF SECTION STUDENT CLICK---> click here | SEARCHING OF STUDENT_EXTERNAL_ACTIVITY CLICK---> click here | SEARCHING OF SUBJECT EXAME CLICK---> click here |
| SEARCHING OF STUDENT ATTENDANCE CLICK---> click here | SEARCHING OF EXT_ACTIVITY_NATURE EXTERNAL_ACTIVITY CLICK---> click here | SEARCHING OF SECTION EXAME CLICK---> click here |
| SEARCHING OF LEAVE_NATURE ATTENDANCE CLICK---> click here | SEARCHING OF CLASS SUBJECT CLICK---> click here | SEARCHING OF STUDENT EXAME CLICK---> click here |

Record: 1/1

# MASTER DETAIL OF 2 TABLES



## DATA ENTRY FORM



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# DATA ENTRY FORM

Action   Edit   Query   Block   Record   Field   Window   Help

## subject record

Subject Id

Class Id

Sub Name

Record: 1/1

# QUERRY FORM SWITCH BOARD

Action   Edit   Query   Block   Record   Field   Window   Help

FOR TOTAL NO'S OF STUDENTS IN THE SCHOOL   *click here*   TOTAL NO'S OF STUDENTS PRESENT ABSENT IN THE SCHOOL AT PARTICULAR DATE   *click here*

TO SEE TOTAL NO'S OF CLASSES IN THE SCHOOL   *click here*   TOTAL NO'S OF STUDENTS IN THE SECTION   *click here*

TOTAL NO'S OF SECTION IN THE CLASS   *click here*   TOTAL NO'S OF STUDENTS IN CLASS   *click here*

Record: 1/1

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# QUERRY FORM

**Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]**

Action  Edit  Query  Block  Record  Field  Window  Help

ENTER THE DATE

TOTAL NUMBER OF STUDENTS PRESENT IN THE SCHOOL

CLICK

TOTAL NUMBER OF STUDENTS ABSENT IN THE SCHOOL

CLICK

Record: 1/1

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# REPORTS

# STUDENTS ACTIVITIES REPORT

Developer/2000 Report Builder for Windows 95 / NT - [activity: Report Editor - Live Previewer ]

File  Edit  View  Insert  Format  Arrange  Program  Tools  Window  Help

Page: 1

Courier New    10    B  I  U

STUDENT ACTIVITIES REPORTS

| Act Id | Status3 | Class Name | Sect Name | St Name | F Date | |
|---|---|---|---|---|---|---|
| 1 | SPORTS | 10th | 10th A | asad ullah | 03-AUG-02 | |
| 2 | SPORTS | 10th | 10th A | zahid khan | 03-AUG-02 | |
| 3 | SPORTS | 9th | 9th A | MANZOOR ILAHI | 03-AUG-02 | |
| 4 | SPORTS | 9th | 9th B | NAILA | 03-AUG-02 | |
| 5 | SPORTS | 9th | 9th c | HUSSAN ALI | 03-AUG-02 | |
| 6 | SPORTS | 8th | 8th A | JANA MALIK | 03-AUG-02 | |
| 7 | SPORTS | 8th | 8th B | WAJID ALI | 03-AUG-02 | |
| 8 | SPORTS | 8th | 8th C | IMTAZ ALI | 03-AUG-02 | |
| 9 | SPORTS | 7th | 7th A | NASEEM | 03-AUG-02 | |

Q 1x    3.81    3.13

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# TEACHERS QUALIFICATION REPORT

**Developer/2000 Report Builder for Windows 95 / NT - [qualification: Report Editor - Live Previewer ]**

File  Edit  View  Insert  Format  Arrange  Program  Tools  Window  Help

Courier New ▾ | 10 ▾ | B I U

## TEACHER QUALIFICATION REPORT

| Qual IdT Name | Qual Name | From1 | Year Of Quali | Mark Obtain |
|---|---|---|---|---|
| 3 ABDULLAH | M.Sc(phy) | peshawar university | 1982 | 1500 |
| 4 MANZOOR ILAHI | F.Sc | peshawar board | 1994 | 778 |
| 1 ABDULLAH | F.Sc | peshawar board | 1978 | 720 |
| 2 ABDULLAH | B.Sc | peshawar board | 1980 | 360 |
| 5 MANZOOR ILAHI | B.sc | peshawar university | 1996 | 378 |
| 6 MANZOOR ILAHI | M.Sc(phy) | Gomal university | 1998 | 1600 |
| Total: | | | | 5336 |
| Average: | | | | 889.33333333 |
| Count: | 6 | | | |

Q 1x    4.00    1.31

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# STUDENTS DUES REPORT

Developer/2000 Report Builder for Windows 95 / NT - [dues: Report Editor - Live Previewer]

File Edit View Insert Format Arrange Program Tools Window Help

Courier New    10    B I U

STUDENT DUES REPORT

| Due Id | Class Name | Sect Name | St Name | Status2 | Amount | |
|--------|-----------|-----------|---------|---------|--------|--|
| 1 | 10th | 10th A | asad ullah | ADMISSION FEE | 888 | |
| 2 | 10th | 10th A | asad ullah | TUTION FEE | 100 | |
| 3 | 10th | 10th A | asad ullah | LIBRARY FEE | 50 | |
| 4 | 10th | 10th A | asad ullah | LAB FEE | 40 | |
| 5 | 10th | 10th A | asad ullah | EXAMINATION FEE | 100 | |
| 6 | 10th | 10th A | asad ullah | TRANSPORT FEE | 100 | |
| 7 | 10th | 10th A | asad ullah | SPORTS FEE | 50 | |
| Total: | | | | | 1328 | |

Q 1x    6.88    4.06

# TEACHERS SALARY REPORT



Developer/2000 Report Builder for Windows 95 / NT - [Salary: Report Editor - Live Previewer ]

File  Edit  View  Insert  Format  Arrange  Program  Tools  Window  Help

Courier New    10

### TEACHER SALARY REPORT

| Salary Id | T Name | Basic Pay | Allownces | Deduction | Date1 |
|---|---|---|---|---|---|
|  | ABDULLAH | 800 | 1000 | 100 | 10-SEP-02 |
|  | MANZOOR ULLAH | 1000 | 100 | 100 | 10-SEP-02 |
|  | IKHLAR MAJEED | 500 | 50 | 1000 | 10-SEP-02 |
|  | HANEEF KHAN | 1000 | 200 | 200 | 10-SEP-02 |
|  | ASAD ULLAH | 1200 | 200 | 100 | 10-SEP-02 |
|  | KALEEM ULLAH | 1600 | 1000 | 300 | 11-SEP-02 |
|  | KHALIL UR REHMAN | 1000 | 100 | 150 | 10-SEP-02 |
|  | KAREEM ULLAH | 1200 | 500 | 400 | 2-AUG-98 |
| Total: |  | 86000 | 10150 | 5850 |  |

1x      3.56      2.50

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# CHAPTER NO. 4.

# SYSTEM DEVELOPMENT, IMPLEMENTATION AND TESTING

## 4.1 INTRODUCTION:

After the detail study of the existing system and design of the proposed system the next step is the system development, system implementation and system testing.

System development is the process in which we develop the system to achieve the requirements, goal and objective of the proposed system.

During development phase the s/w developer attempt to describe how data structure to be design and how the design of the system will be translated into programming language and testing is performed.

## DBMS:

A DBMS is basically a computerized record keeping system I.e. it is a computerized set who purpose is to keep all the data, information and make the information available on demand.

System development: after the designing of the proposed system it is required to develop a system. Some of the most common approaches are:

1. Top down approach.
2. Bottom up approach.
3. Inside out approach.
4. Mixed approach.

Out of these approach, bottom up approach is used for the development of the proposed system, because in this approach all the programs are developed separately which make the system easy.

## DEVELOPER/2000:

Developer/2000 was selected the product from oracle corporation that make it easy to build data base applications. it handle most of the issues elegantly and well using the features of oracle.

## 4.4.1 ORACLE SQL * PLUS:

oracle SQL* PLUS is an interface through which SQL commands may be entered and executed. The SQL data base language allows us to store and retrieve data in oracle.

## ORACLE * FORMS:

The form component of developer/2000 is the environmental component, form is develop from module. These forms provide fast and easy data entry, updating, deletion and queries to an oracle data base.

## ORACLE * REPORTS:

The report component of developer/2000 is used to create different reports in a variety of styles. Reports can be of a single data base table with columns heading, columns of data base information system and total as desired.

system development: each system comprises of one or more component relation to one specific branch of a system, a description of a system components is given below.

## 4.5.1 EDITOR:

Developer/2000 editors which are:
PL/SQL editor.
Lay out editor.
Object navigator.
PL/SQL editor: it is used to write triggers, program units, procedure etc.
Lay out editor: it used for creating, formatting and arranging interface items and graphics. it provides a complete set of drawing and editing tools.

## OBJECT NAVIGATOR:

It is used to display editors. it provides work area for creating and modifying form objects.e.g it is used for creating a new block etc.

forms: a form application represents a data in an online format consisting of a series of fields laid out in one or more windows.it provide a good way of executing and changing that information.we can enter the data by using a form.the main types of a forms are simple form,master detail form,query form etc.

### 4.5.3      CANVAS: -

A canvas is the "surface" on which we paint objects like text item, push button and check boxes etc.

### 4.5.4      BLOCK: -

Block is the intermediate building unit of forms a block is a collection of item or a collection of record. A form may have one or more blocks.

### 4.5.5      BASE TABLE: -

A base table is associated to a block. It have complete database for that block. It have complete database for that block.

### 4.5.6      FIELD: -

A block item is the primary building unit of the form. Represented columns or data entry areas describe how the data should be displayed and validate, hence we can say that field serves a container for data with in a form. In any block there are one or more fields.

### 4.5.7     TRIGGERS: -

Trigger is a block of PL/SQL code. We use triggers to respond run time events with appropriate processing. Triggers field level and form level.

### 4.5.8     MASTER DETAIL RELATIONSHIP: -

A form may contain more than one block. These forms may have independent states. A block is called master block if in master there exists one or multiple records in detail blocks.

The master detail retaltion can be made by using the primary key in the first block as a foreign key in the $2^{nd}$ block..

### 4.6     SYSTEM IMPLEMENTATION: -

It has two important phases.
- Testing.
- Conversion.

### 4.6.1     TESTING: -

Software testing is a necessary element ofr a software and it is the basis for system acceptance. It is the processing of executing program for finding the errors.
Three basic types of testing are
- Unit testing.
- Integrated testing.
- System testing.

### 4.6.2     SYSTEM CONVERSION: -

After the successful completion of testing phase the process of conversion is performed. Conversion is the process of switching over from old to new system. Three methods of system conversion.
- Direct Cutover.
- Parallel Conversion.
- Pilot Conversion.

## 4.7    SYSTEM EVALUATION: -

System evaluation is the process of judgment to see whether the proposed system obtain the objectives or not. We also see that what are the drawbacks in the proposed system and which thing should be include or exclude inform the proposed system.

# CHAPTER NO. 5.

# USER GUIDE

## INTRODUCTION:

The system is used friendly. It provides help and display appropriate messages for the user conveniences.

## LOGGING IN AND OUT:

As we know that the system operates in the modular environment so it is required that the services of a D.B.A to perform several tasks such as

1. Creating new user.
2. Giving role and privileges to users.
3. Keeping backup of data.
4. Ensuring efficiency of the system.

Window 98 is the first step towards the system implementation. Next step is the installation of the oracle 7/developer 2000. Oracle 7 is the database engine where developer 2000is at the front. After installing oracle 7/developer 2000 the database administrator will create user and its password.

# 1. Table creation:

For entering to the database click on start→Program→Oracle7→SQL *
Plus the system will demand for the authorized user and password when
the user name and password is entered the system will show a screen of
SQL * PLUS in which many tables can be created, data can be entered,
retrived, Update, Delete by using the different Queries.

# 2. Forms creation:

For form generation click Start→Program→Developer 2000→form
Builder. The screen will be displayed by using that screen many data
blocks can be created.

These forms are used for data insertion, deletion, updating etc.

## IMPORTANT CONSIDERATION:

Before using the system the following definitions should be kept in mined
various forms layouts have been designed to enter , update , and retrieve
data from the database .they form the bases for the database .

## EDITING FIELDS:

It is the basic unit in the designing .a form layout uses this to store and
retrieve information from the database.

## STATUS LINE:

It is the bottom line of the screen in which status is displayed. It indicates
The number of records retrieved.

## MESSAGE LINE:

The message line is displayed at the bottom of input form in which
message and additional help is displayed.

## RECORD MANIPULATION:

There are four operations, which are possible on a record that is Insertion Deletion, Modification and retrieval. These are explain as follow

### 1. INSERT RECORD:

If a user want to add a new record, he will adopt the following procedure.

⇨ The form in which he want to insert the record must be displayed

⇨ Click →Record →Insert a Block form will appear on the screen

⇨ The data is entered in the form.

⇨ This new record is saved by creating save button by clicking save button or from file save.

⇨ The system will warning on entering a duplicate primary key value

### 2. DELETE / REMOVE RECORD:

If user want to remove a record he must adopt the following procedure

⇨ The form from which the record is to be deleted must be displayed.

⇨ Click query → enter and enter the primary key of the record to be deleted.

⇨ Again click query → execute the desired record if appear.

⇨ Click record → remove the desired record is removed from the database.

⇨ Save the changes by using save toolbar.

## 3. MODIFY RECORD:

To modify the record use the following procedure.

⇨ Display that form in which the record is to be modify.

⇨ Click query → enter and then enter the primary key of the desired record in particular field.

⇨ Click query → execute the desired record will be displayed.

⇨ Enter new data in that field which is to be modify.

⇨ Click the save button to save the record modified.

## 4. RETRIEVED RECORD:

To retrieved the records the following procedure is used.

⇨ Display the form from which the data is to be retrieved.

⇨ Click the query → execute the first record will be execute.

⇨ Then using scroll bar or next record the desired record id retrieved.

# 3   REPORT GENERATION:

for the report generation the following procedure is use:

⇨ Click start→program→developer/2000→report builder
A screen will be display then click→build a new report manually.

⇨ A new screen will be display open the SQL and enter the query and the click →ok. after that give the name to the group. After that save the report .and then decide the layout of the report then run the report the report will be displayed.

The reports are in different form that is matrix, tabular etc. It depends on you which type you want to select and apply .

The report generated is the out put which can be printed on hard copy and present in front of any person.

## 4.  SPECIAL CONSIDERATION:

The system has been developed in window 98 based on Oracle. Thus user must have knowledge of the system

The user must be an authorized user that is only those users can access the system, which has authority.

The system should be carefully shutdown.

The Oracle database should be dismounted before switching off the system  other wise the system might be corrupted which may result in loss of data.