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**STUDENT INFORMATION SYSTEM**

**FOR**

**STUDENTS OF F.G. INTER COLLEGE  
MANGLA CANTT**

**BY**

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**AND**

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**These papers are the final part of our training and are submitted to Quaid-i-Azam University, Islamabad for the award of Post Graduate Diploma in Computer Science.**

DEDICATED TO OUR COMPUTER CENTRE,  
QUAID-I-AZAM UNIVERSITY, WHICH PROVED  
TO BE THE SOURCE OF KNOWLEDGE



## CERTIFICATION

It is certified that we have read the papers of project carefully submitted by Sher Dil and Shaukat Iqbal, and we have found it upto the standard to warrant its acceptance by Quaid-i-Azam University for the award of Post Graduate Diploma in Computer Science.

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Sher Dil

and

Shaukat Iqbal

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## **CHAPTER NO.1**

### **INTRODUCTION OF THE INSTITUTION**

F.G. College Mangla Cantt is situated in District and Teshil Jhelum at Mangla. It was established in 1978 as Intermediate Institution. The college is under the control of FGEI (C/G) Directorate, GHQ, Rawalpindi. The college is affiliated with Federal Board of Intermediate & Secondary Education, Islamabad.

The Institute is the Co-educational. It has about 350 students in two classes having five sections each.

There are fourteen faculty members headed by a Principal.



## **CHAPTER NO. 2**

### **THE EXISTING SYSTEM**

#### **2.1 Problem Definition:-**

The student information system in F.G. College Mangla Cantt exists but in the huge files maintained by the manual system. The college administration faces various problems when a particular information is required to be retrieved. In modern world the life has been changed and information has gained the status of technology. It is realized to computerize the student information system of the institution.

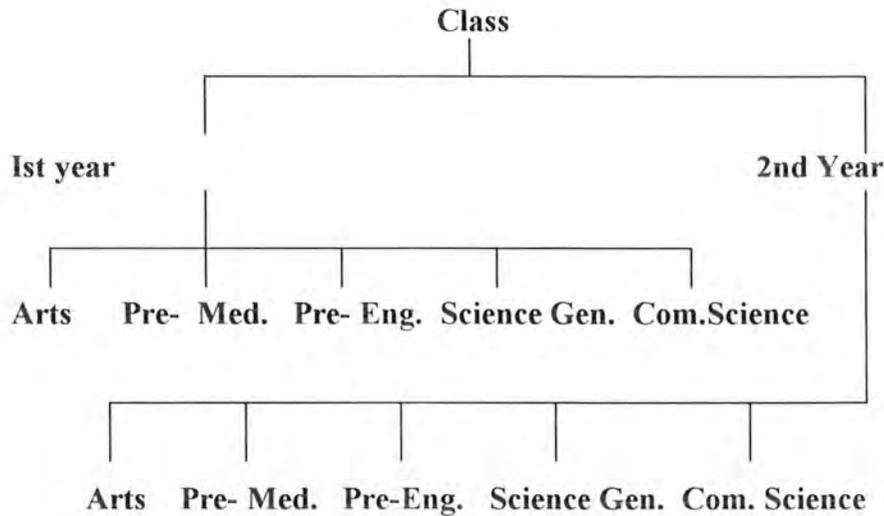
#### **2.2 Project introduction:-**

We are living in the global village. The evolution of the society has entered the computer era. Computer Science is a study of computer and their sciences. Computer deals and solves problems, retrieve, analysis and quick access for long detailed calculation and routines of repetitive control functions.

The prime objective of this project to develop a software for student information system for F.G. College Mangla Cantt.

### 2.3 Course of Study:-

Every student is offered various groups ( course of study) to select one for his session. F.G. Inter College Mangla Cantt has two classes Ist year and 2nd year each class has five groups. The following groups are offered



Every student has to select one group from above mentioned five groups.

### 2.4 Category:

F.G. College Mangla Cantt is to provide the education to the children of the armed forces and those students who face the frequent transfer and posting throughout Pakistan.

Admission is granted to the various categories and these categories mean the various walks of life.

The following categories are provided admission in the following percentage out of 45 students in each group.

2.4.1 **ARMY:** Forty percent (40%) seats are provided to the sons/daughters of Armed Forces personnels.

2.4.2 **WAPDA:** Twenty five percent (25%) seats are reserved for Wapda.

2.4.3 **EX-ARMY:** Ten percent (10%) seats are reserved for Retired Personnels of Armed Forces.

2.4.4 **CANTT RESIDENT:** Ten percent (10%) seats are reserved for the applicants reside in the Cantonment Area.

2.4.5 **FGEI EMPLOYEES:** Ten percent (10%) admission is granted to the sons/daughters of FGEI employees.

2.4.6 **OPEN MERIT:** Five percent (5%) seats are filled through open merit.

2.5 **E\_C\_ACTIVITY:**

Various extra curricular activities are the ...  
different healthy competitions are held at this College.

2.6 **APPLICANT:**

Admission form is provided to every candidate who is interested to get admission.

This admission form is the main source of information about the candidate as well as the student.

In this admission form every candidate or applicant provides essential information about himself and his father. This form also provides the information about the previous academic record of an applicant. Category and marks obtained in Higher Secondary School Certificate are also recorded in this admission form. It provides the various information.

This record, recorded in this form is kept for two purpose. Firstly it is used to decide the list of selected applicant who are offered the admission. The waiting lists are also prepared and the recode of every applicant is kept upto the December of current year.

Secondly the record of students recorded in this form is kept in this college and is the permanent record of the institution.

The record of the rejected students is to be deleted in the December of the year of application.

## **2.7 REGISTRATION AND FEE:**

The selected candidates are asked to deposit their fees within the specific duration the fee is deposited in the Accounts Office of the college. The seats which remain vacant after this duration are filled by the waiting list.

The College roll numbers are issued at the deposit of fee and every roll number starts with the year. For example in 1995 every roll number was started with 95.

This fee decides finally that which applicant is going to be the student of this College. The fee is collected and deposited for the year and is per annum.

Fine is collected at the end of session or when it is ordered by the Principal.

This College is the Institute of the Federal Government and the donations are not received in any kind.

## 2.8 ATTENDANCE REGISTER:

Attendance of the students is restrictedly observed and every teacher is issued a register. Every and during every lecture present or absent against the name of every student is marked. Student are fined Rs. 1 per every missed period. The attendance is related with every subject, at the end of every month the absentee list is deposited in the Principal Office.

Seventy five percent (75%) of total lectures delivered must be attended. If the lecturers attended are less than 75% the admission form of the Federal Board (FBISE) is not forwarded by the College Principal.

Attendance is compulsory during every lecture on every working day.

## 2.9 SUBJECT:

Subjects are classified is two major classes compulsory and optional. Optional subjects are decided with in the every group.

Every student's subjects are written in the admission form.

Every student has to take examination in twelve subjects, six in first year and six in 2nd year.

The following subjects are offered in this institution.

### 2.9.1 PRE-MEDICAL:

2.9.1.1 **Ist year:** Physics-I, Chemistry-I, Biology-I, English, Urdu and Islamic Studies.

2.9.1.2 **Pre-Medical 2nd year** Biology-II, Physics-II, Chemistry, English, Urdu and Pakistan Studies.

## 2.9.2 PRE-ENGINEERING:

2.9.2.1 **Ist year:** Math-I, Physic-I, Chemistry-I, English, Urdu and Islamic Studies.

2.9.2.2 **2nd year:** Math-II, Physics-II, Chemistry-II, English, Urdu and Pakistan Studies

## 2.9.3 SCIENCE GENERAL:

2.9.3.1 **Ist year:** Math-I, Statistic-I, one from Economics-I or Physics-I, English, Urdu and Islamic Studies.

2.9.3.2 **2nd year** Math-II, Statistic-II, Economics-II or Physics-II, English, Urdu and Pakistan Studies.

## 2.9.4. ARTS:

2.9.4.1 **Ist year** Three subjects from the following subjects are chosen by the students:  
Civics-I, Economics-I, Health & Physical Education, Islamiyat-I and History of Pakistan-I

**Compulsory:** Urdu, English, Islamic Studies.

2.9.4.2 **2nd year** Part two subjects of the above mentioned subjects are selected and Pak. Studies is compulsory.

## 2.9.5 COMPUTER SCIENCE:

2.9.5.1 **Ist year:** Math-I, Statistics-I or Physics-I, Computer Science-I, Urdu, English and Islamic Studies

2.9.5.2 **2nd year:** Math-II, Statistics-II or Physics-II, Computer Science-II, Urdu, English and Pak. Studies.

## 2.10. EXAMINATION:

Local ( Internal ) Examination are held in College the important one is held in every December and it is called the send up examination and the result decides that which students will take the examination to be conducted by the FBISE.

Every student is examined by the FBISE once in first year one in 2nd year the total result decides that grading to be awarded.

Total marks are 1100 and grading is awarded in the following form:

Grade A	70% and above
Grade B	60 % to 69.9%
Grade C	50% to 59.9%
Grade D	33% to 49.9%
Grade F	below 33% are considered failed

Supplementary examinations are also conducted by the FBISE, but the student appearing in these examinations are considered ex-student.

## 2.11 OLD STUDENT RECORD:

The institution has decided to keep the old student record but there is no systematic method or process, it is decided to arrange a function on every 14, August and all the old students are invited to attend the function. The old students will be issued a questionnaire to provide the following informations,

Name, Session, Qualification, Profession, Rank or Grade,  
Address and Telephone number

## 2.12 CONCLUSION:

The institution is still not computerized and at the completion of this project the institution will be provided the software and the first software will be the student information system.

## CHAPTER NO. 3

### SYSTEM DESIGNING PHASE

#### 3.1 **PROPOSED SYSTEM**

The most important phase after the study of existing system in the design of new system.

The proposed system has been designed after conducting a detailed study of the present system. The proposed system is developed in a more powerful software tool which is more efficient reliable and economical than the present system.

#### 3.2 **Proposed Student Information System**

#### 3.3 **Objectives of the proposed system.**

#### 3.4 **Software used -----**

----- ORACLE Developer 2000 is proposed --- ORACLE DATABASE in a collection of tables to be treated as a unit. ORACLE tables consists of operating system files. Physically there are “database files” and “redo log file”. Logically the database files contains a set of dictionary and user tables whereas redo log files contains data recovery. There are also one or more control tables that identify and describe the rest of database.

### 3.4.1 RDBMS

The ( relational database management system ) RDBMS is a high performance fast tolerant database management system, especially designed for on line transaction processing and large database applications. The database is mostly manipulated in the SQL ( Structure query language ) which is considered as the heart of the RDBMS. Its popularity is due to its ease of use flexibility and capability. The SQL is divided into four categories:

#### Queries

Data manipulation statements, that are used to insertion, deletion and modification of data.

Data definition statements, that are used to define, maintain and drop database objects, which are no longer need, including the database tables.

Data control statements that are used to control access to the database as well as to its data.

#### Merits

Provides easy access to data. Reduces data storage and redundancy. Independent of physical storage and logical data design. Provides a high level data manipulation language.

Following are the major parts of selected S/W tools.

### 3.4.2 ORACLE PL/SQL PROGRAMMING

P/L/SQL stands for procedural language/structured query language. SQL is flexible efficient language with features designed to manipulate and examine relational data. PL/SQL extends SQL by adding constructs found in other procedural language such as variable and types control structure and loops procedures and functions.

### 3.4.3 ORACLE FORMS

Oracle forms is a major product within the developer 2000. Oracle forms enable one to quickly develop form based applications for presenting and manipulation data in a variety of ways.

Oracle forms applications let user to insert, update delete and query data using a variety of interface items. Control forms across several windows and data base transactions.

Access the facilities of oracle graphics and OLE2 applications directly.

### 3.4.4 ORACLE REPORTS

Oracle reports is a tool for developing displaying and printing production quality reports. It is designed for application developers who are familiar with SQL and PL/SQL.

Major features of oracle reports are data model and layout editors in which one can create the structure and format the report. Packages function for creating computations. Conditional printing capabilities.

Fully integrated preview for viewing report output.

### 3.5 **HARDWARE SELECTION**

In this system the minimum requirements for the hardware and operating system are IBM PC or any IBM compatible computer with a minimum of 16MB RAM; a 3.5 Inch diskette drive and a hard disk with at least 1.2 G.B. of memory. A colour SVGA monitor. Printer with 132 column paper width. Window version 98.

## CHAPTER NO. 4

### DATA BASE DESIGN

Following different database tables are designed for the proposed system.

4.1.1 TABLE NAME: COURSE

KEY: G\_CODE

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
GROUP CODE	G_CODE	NUMBER (1)	NOT NULL
GROUP	GROUP	CHAR (15)	

4.1.2 TABLE NAME: CATAGORY

KEY : C\_CODE

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
CATEGORY CODE	C_CODE	NUMBER (2)	NOT NULL
CATEGORY NAME	CATEGORY	CHAR (15)	

4.1.3 TABLE NAME : E\_ACTIVITY

KEY: E\_CODE

DESCRIPTION	FIELD NAME	DATA TYPE	STATUS
ACTIVITY CODE	E_CODE	NUMBER (2)	NOT NULL
ACTIVITY	ACTIVITY	CHAR (15)	

## 4.1.4 TABLE NAME: APPLICANT

KEY: FORM\_NO

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
FORM NUMBER	FORM_NO	NUMBER (4)	NOT NULL
GROUP CODE	G_CODE	NUMBER (2)	NOT NULL
CATEGORY CODE	C_CODE	NUMBER (2)	NOT NULL
EXTRA CURRICULAR ACTIVITY	E_CODE	NUMBER (2)	NOT NULL
NAME OF APPLICANT	NAME	CHAR (20)	
DATE OF BIRTH	D_O_B	DATE	
PRESENT ADDRESS	P_ADD	VARCHAR (100)	
PERMANENT ADDRESS	PER_ADD	VARCHAR (100)	
RELIGION	REL	CHAR (10)	
SEX	SEX	CHAR (6)	
HOBBY	HBV	CHAR (15)	
SPORTS	GAME	CHAR (10)	
FATHER'S NAME	F_NAME	CHAR (10)	
FATHER'S DESIGNATION	F_DISG	CHAR (15)	
FATHER'S PROFESSION	F_PROFN	CHAR (12)	
PLACE	PLACE	CHAR (20)	
SESSION	YEARS	VARCHAR (9)	
CLASS OF ADMISSION	C_OF_ADMN	CHAR (10)	
SSC MARKS	MARKS	NUMBER (3)	
LAST INSTITUTE ATTENDED	L_I_AH	CHAR (30)	

4.1.5 TABLE NAME: FEE\_REG

KEY: R\_NO

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
ROLL_NO	R_NO	NUMBER (5)	NOT NULL
FORM_NO	FORM_NO	NUMBER (6)	NOT NULL
BOARD ROLL NUMBER	B_R_NO	NUMBER (6)	
DEPOSIT DATE	D_DATE	DATE	
SESSION	YEAR	VARCHAR (9)	
ADMISSION FEE	AD_FEE	NUMBER (3)	
RE_ADMISSION FEE	RE_AD_FEE	NUMBER (3)	
TUTION FEE	T_FEE	NUMBER (3)	
SCIENCE FEE	S_FEE	NUMBER (3)	
LATE_FEE	L_FEE	NUMBER (3)	
COLLEGE LEAVING CERTIFICATE FEE	CLC_FEE	NUMBER (3)	
LIBRARY FEE	LIB_FEE	NUMBER (3)	
LABORATORY FEE	LAB_FEE	NUMBER (3)	
GENERAL FUND	G_FUND	NUMBER (3)	
BUILDING FUND	B_FUND	NUMBER (3)	
MEDICAL FUND	M_FUND	NUMBER (3)	
SPORTS FUND	SP_FUND	NUMBER (3)	
SECURITY	SECURITY	NUMBER (3)	
WELFARE FUND	W_FUND	NUMBER (3)	
EXAMINATION_FEE	E_FEE	NUMBER (3)	
REGISTRATION_FEE	REG_FEE	NUMBER (3)	
IDENTITY CARD FEE	IDC_FEE	NUMBER (2)	
FINE	FINE	NUMBER (3)	
REGIONAL DEVELOPMENT FUND	RDF	NUMBER (3)	
TOTAL FEE	F_TOT	NUMBER (4)	

4.1.6 TABLE NAME: A\_REGISTER

KEY : S\_NO1

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
SERIAL NO1	S_NO1	NUMBER (2)	NOT NULL
ROLL_NO	R_NO	NUMBER (6)	NOT NULL
FORM NUMBER	FORM_NO	NUMBER (6)	NOT NULL
LECTURE (PER 100)	LECTURE	CHAR (15)	
DATE OF PERIOD	DATE	DATE	
ABSENT/PRESENT	A/P	CHAR (1)	
REMARKS	REMARKS	CHAR (15)	

4.1.7 TABLE NAME : SUBJECT

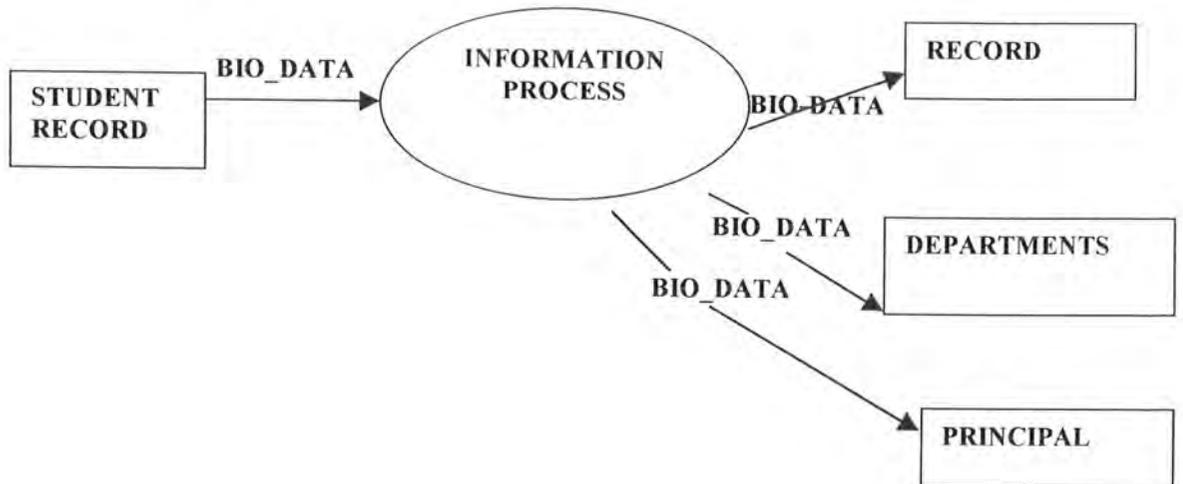
KEY : S\_NO2

DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
SERIAL NUMBER 2	S_NO2	NUMBER (2)	NOT NULL
SUBJECT CODE	S_CODE	NUMBER (2)	
SUBJECT NAME	S_NAME	CHAR (15)	

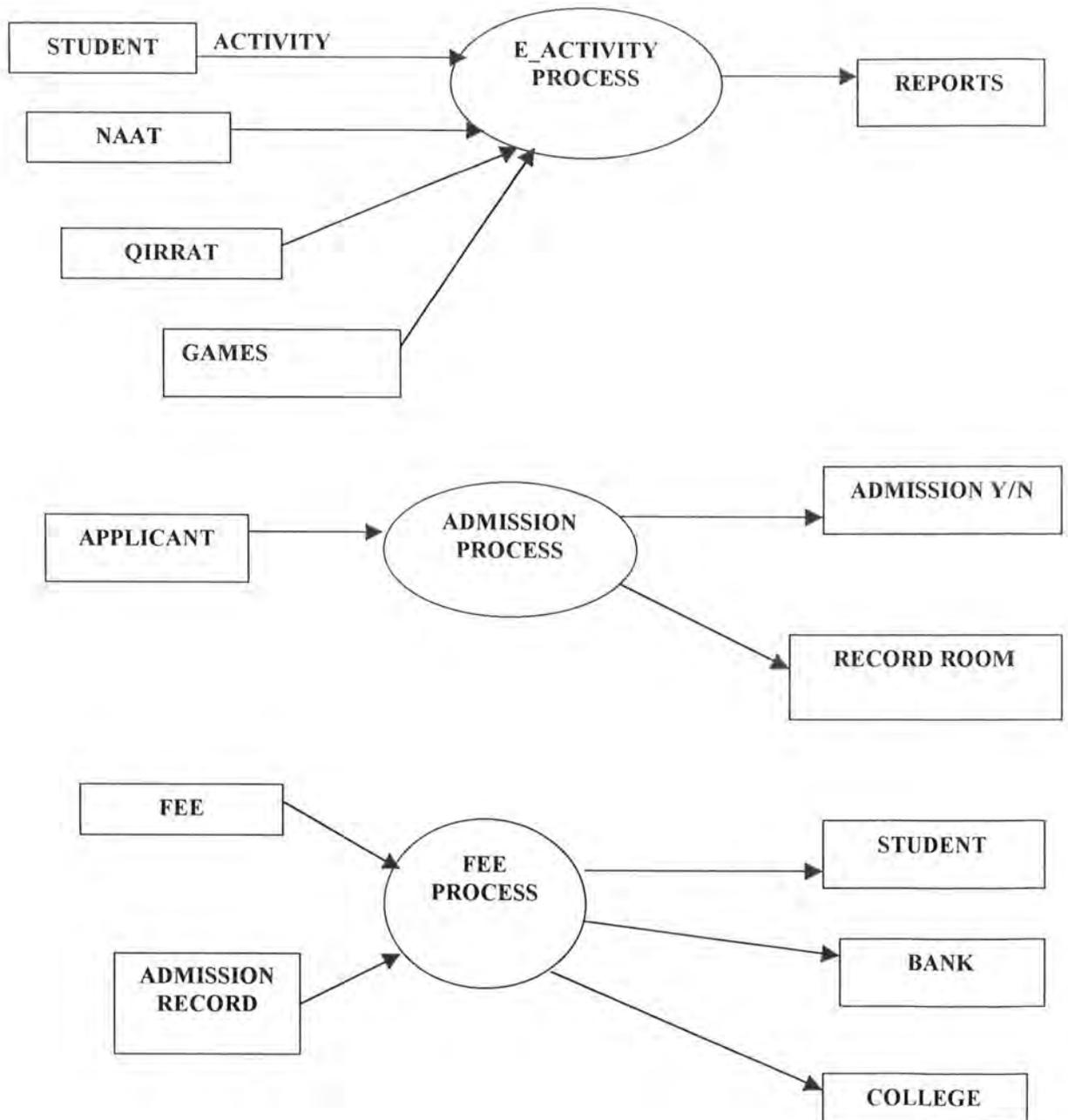
## 4.1.8 TABLE NAME : EXAMS

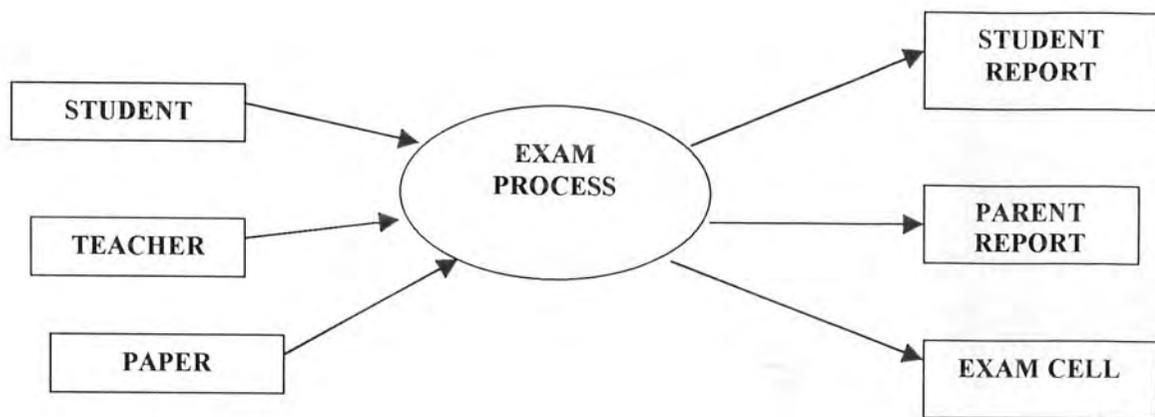
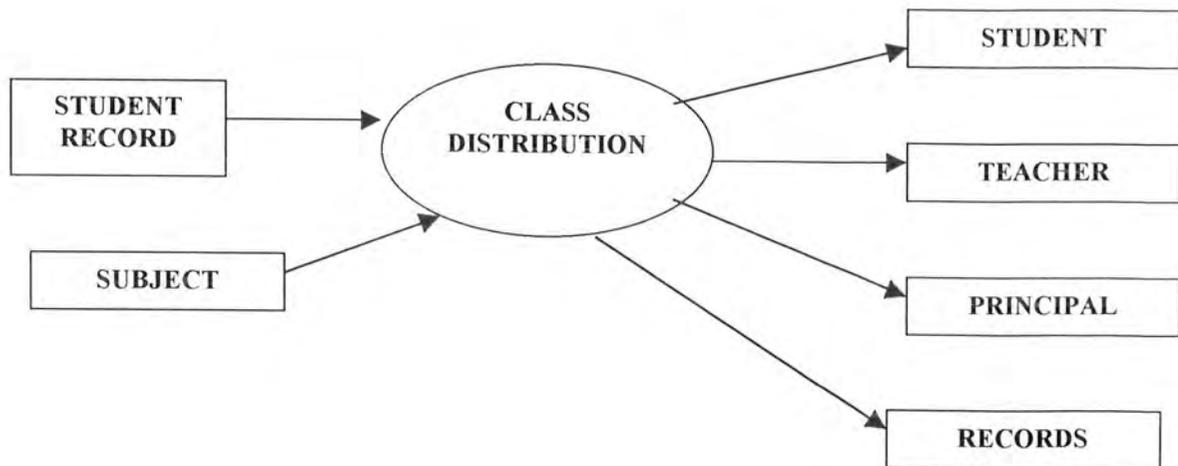
KEY S\_NO3

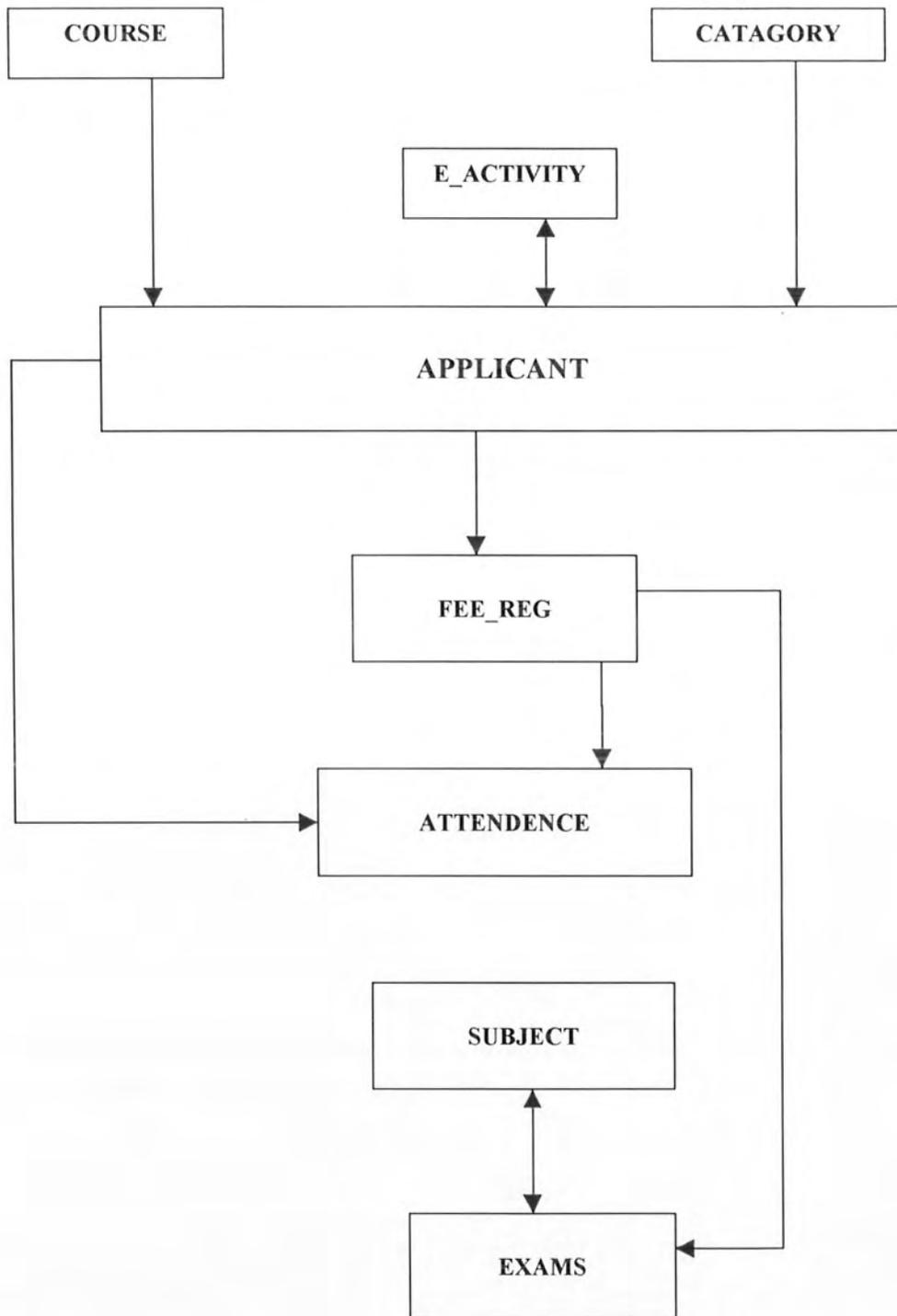
DESCRIPTION	FIELDNAME	DATA TYPE	STATUS
SERIAL NO 3	S_NO3	NUMBER (2)	NOT NULL
ROLL NUMBER	R_NO	NUMBER (6)	NOT NULL
SERIAL NUMBER 2	S_NO2	NUMBER (2)	NOT NULL
REGISTRATION NUMBER (FBISE)	REG_NO	NUMBER (6)	
MARKS IN SUBJECT 1	M_111	NUMBER (3)	
MARKS IN SUBJECT 2	M_112	NUMBER (3)	
MARKS IN SUBJECT 3	M_113	NUMBER (3)	
MARKS IN SUBJECT 4	M_114	NUMBER (3)	
MARKS IN SUBJECT 5	M_115	NUMBER (3)	
MARKS IN SUBJECT 6	M_116	NUMBER (3)	
MARKS IN SUBJECT 7	M_117	NUMBER (3)	
MARKS IN SUBJECT 8	M_118	NUMBER (3)	
MARKS IN SUBJECT 9	M_119	NUMBER (3)	
MARKS IN SUBJECT 10	M_120	NUMBER (3)	
MARKS IN SUBJECT 11	M_121	NUMBER (3)	
MARKS IN SUBJECT 12	M_122	NUMBER (3)	
MARKS IN SUBJECT 13	M_211	NUMBER (3)	
MARKS IN SUBJECT 14	M_212	NUMBER (3)	
MARKS IN SUBJECT 15	M_213	NUMBER (3)	
MARKS IN SUBJECT 16	M_214	NUMBER (3)	
MARKS IN SUBJECT 17	M_215	NUMBER (3)	
MARKS IN SUBJECT 18	M_216	NUMBER (3)	
MARKS IN SUBJECT 19	M_217	NUMBER (3)	
MARKS IN SUBJECT 20	M_218	NUMBER (3)	
MARKS IN SUBJECT 21	M_219	NUMBER (3)	
MARKS IN SUBJECT 22	M_220	NUMBER (3)	
MARKS IN SUBJECT 23	M_221	NUMBER (3)	
MARKS IN SUBJECT 24	M_222	NUMBER (3)	
TOTAL MARKS	M_TOT	NUMBER (4)	
RESULT	RST	CHAR (5)	
EXAMINATION NAME	E_NAME	CHAR (15)	

4.2.1 DFDLEVEL 0

4.2.2

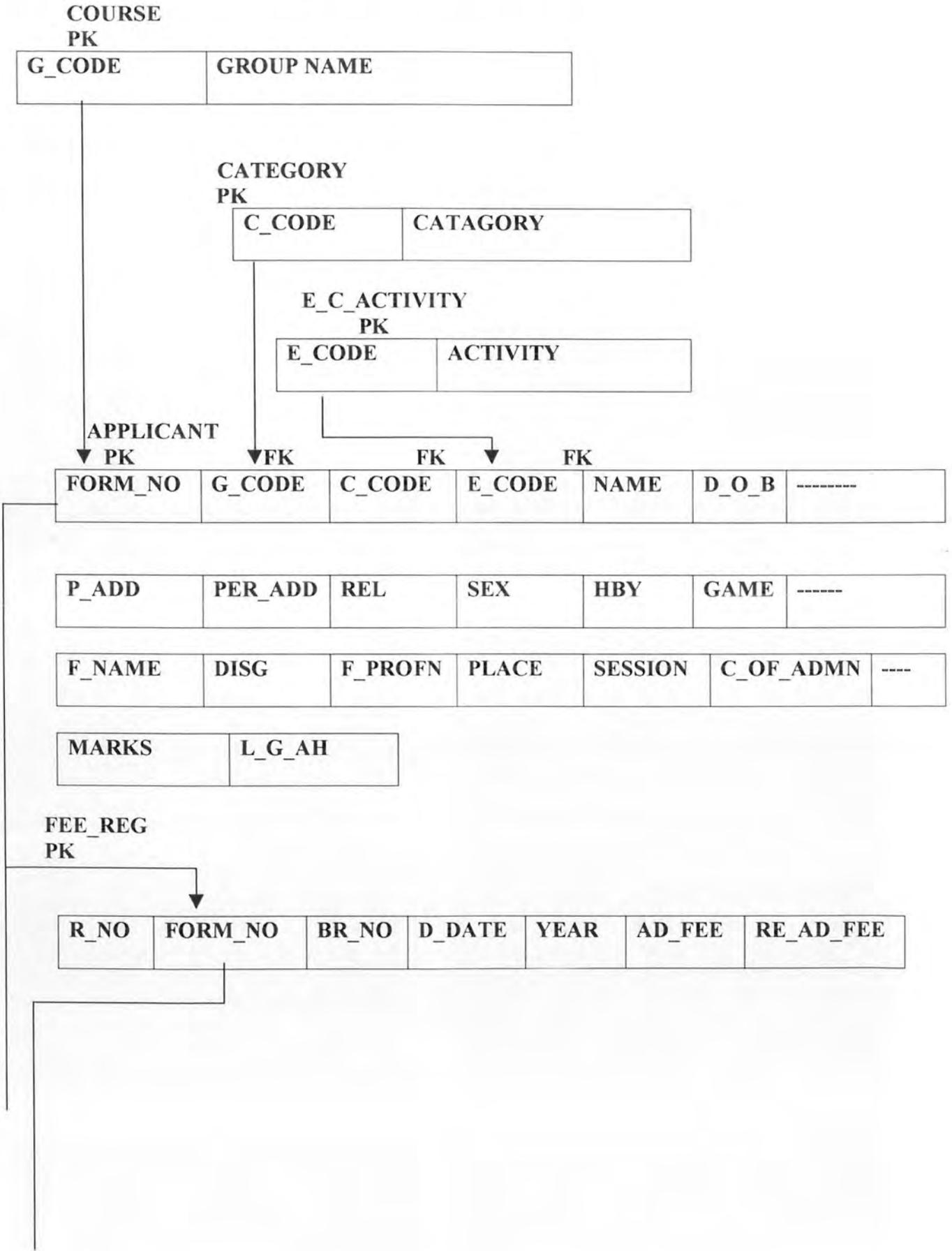
LEVEL-1



4.3 ERD

4.4.

**BAECHMANN DIAGRAM**



T_FEE	S_FEE	L_FEE	CLE_FEE	SP_FEE	LIB_FEE	LAB_FEE
-------	-------	-------	---------	--------	---------	---------

G_FUND	B_FUND	M_FUND	SECURITY	W_FUND	E_FEE	REG_FEE
--------	--------	--------	----------	--------	-------	---------

IDC_FEE	FINE	RDF	F_TOT
---------	------	-----	-------

A\_REGISTER

PK

SNO1	R_NO	FORM_NO	LECTURE	DATE	A/D	REMARKS
------	------	---------	---------	------	-----	---------

SUBJECT

PK

SNO2	S_CODE	S_NAME
------	--------	--------

EXAM  
PK

SNO 3	S_NO	R_NO	M_111	M_112	M_113	M_114	M_115	M_116
-------	------	------	-------	-------	-------	-------	-------	-------

M_117	M_118	M_119	M_120	M_121	M_122	M_211	M_212	M_213
-------	-------	-------	-------	-------	-------	-------	-------	-------

M_214	M_215	M_216	M_217	M_218	M_219	M_220	M_221	M_222
-------	-------	-------	-------	-------	-------	-------	-------	-------

M_TOT	RESULT	E_NAME	REG_NO
-------	--------	--------	--------

**OLD STUDENT  
PK**

<b>S_NO4</b>	<b>SESSION</b>	<b>QUALI</b>	<b>JOB</b>	<b>ADD</b>	<b>DESIG</b>	<b>T_PH_NO</b>
--------------	----------------	--------------	------------	------------	--------------	----------------

## **CHAPTER NO. 5**

### **NATURE OF DATA BASE DESIGNING**

#### **5.1 Design Of Proposed System**

The Main objective of Designed System is explained through the following four phases.

Input form designing

Code designing

Output designing

File designing

#### **5.2 Input Form Designing:**

Input forms are designed to collect the source data needed for the database. An important characteristics of this system is that the forms present a user friendly interface. Data can be retrieved, displayed and edited after each record entry using the same display.

The forms are explained below

##### **5.2.1 COURSE**

This form is used for coding the groups and group means the course of study. This form is used to store the code information about the group. The form is also used for quick query.

### 5.2.2 **CATAGORY**

This form is used to store the code information of each CATEGORY. The form is also used for the quick query.

### 5.2.3 **E- ACTIVITY**

This form is developed for storing the information of coding activities and also used for the quick query.

### 5.2.4 **APPLICANT**

This form is used to collect and store the data and information about the every candidate who is interested to got admission in the institution. It is also used to store the entire essential Bio\_data of the candidate and also required information of his previous academic record and required information about his parent. This is very comprehensive one in the system.

### 5.2.5 **FEE-REG**

This form is used to store the information about the student's Registration and every category of his fee. In this form the roll number is allotted to the every student.

### 5.2.6 **A-REGISTER**

This form has the purpose to store the student's information about his attendance.

### 5.2.7 **SUBJECT**

This form is used to store the information about the codification of every subject.

### 5.2.8 **EXAMS**

This form is used to store the information about the student's marks in every subject and about the information of examination, that is its nature

### 5.2.9 **OLD STUDENT**

This form is developed to store the information about the old students of the institution. The record is current and previous is required.

### 5.3 **CODE DESIGNING**

A code can be defined as an abbreviation of the actual data which occupies very little space. When data is too large to be handled and to avoid entering incorrect information codes are used to replace actual data. It can be combination of digits, codes. When accessing information is displayed on the output devices.

Codes have been used in this system for various fields such as subject code, category code, course code and activity code. These are all numeric values.

### 5.4 **OUTPUT DESIGNING**

The system is successfully implemented, if it is able to reflect all aspects and useful features of the system. Thus output are designed keeping in view the following aspects.

Purpose of the output

Provide exact and accurate information

Easy to understand

The developed system is capable of generating the following reports.

Report of an individual.

Fee- Report

Registration report

Results.

The system provides the facility to get the retrieved information either on screen or printer.

## CHAPTER NO. 6

### SOFTWARE DEVELOPMENT

#### 6.1 **Introduction**

Having designing the system, the next step is its development the involves the realization of the actual system. In development phase system is built to meet the proposed and designed specification. This development phase focuses on how this realization is done. During development, software developer needs to describe how.

Data structures and architectures are to be designed.

Procedural details are to be implemented the design will be translated into programming language and testing will be performed. The system developed activities include preparation of plan to make the system operational. During the implementation phase working personnel are trained and preparation is made for changing over from a project environment to an operational environment.

#### 6.2 **Development phase**

The methods applied during the S/W development phase vary according to the software paradigm applied. However, the most important steps are.

Selecting the development approach. Implementing the data base design. Choosing the appropriate software development tool.

Developing application to store and retrieve information from the data base.

Testing of developed application with sample data for debugging.

Producing only desired output in a desired way.

### 6.3. **Development Approach**

There are several development approaches used in developing systems now-a-days. Some of the very famous are.

#### 6.3.1 **Top Down Approach**

It is based on the principle of coding the high level modules first and leaving the lower level modules to be filled in later. Lower module is only a shell with an entry and exit. In higher module references are made to lower modules as ¥¥

they are coded and available but in fact result will be an empty action.

#### **ADVANTAGES**

It tests the most important modules first. It allows the user to see preliminary version of the system.

Once the higher modules are coded and tested a few level modules can be easily coded and results produced.

Top down coding allow problems to be handled more easily i.e. if the system is going to be late then at least there is something to show the user.

### 6.3.2 Bottom up Approach

It begins with some complete lower level modules while the higher level modules are merely skeletons that call the lower to modules.

#### ADVANTAGES

Lower level modules are critical in some sense, perhaps involving calculations and it may be important to get these working soon. Lower level modules may be assigned earlier in order to keep programmers busy.

### 6.3.3 Inside out Approach

Here the abstractions are focused on some central set of concepts that are most evident making it a special kind of bottom up approach. Muddling from inside then spreads outwards by considering new concepts in the vicinity of the existing ones.

### 6.3.4 Mixed Approach

Instead of following any particular approach, the requirements are portioned while using a top down approach and part of the scheme is designed for each partition using a bottom up approach various scheme parts are then combined out of all these our development approach is the bottom up approach due to the following reasons.

Each and every program can be tested separately.

Modularity can be achieved.

Interface design.

Database design.

Linkage to a main menu can be done very easily after the development. Satisfaction of the working of each separate module.

#### 6.4 **Software Selection**

Software selection was a major issue faced during the development of this system. Before user's satisfaction, developer's satisfaction is must in the context of the working environment so that he should be able to work efficiently, enjoying all the facilities offered by his selected environment for his quality product.

After a careful observation and analysis of the different environments and software present for database development. It was decided that this development will be done in oracle using windows 98 environment. Developer 2000 form designer used for interface designing and report writing.

Oracle has following advantages provide very strong on-line help.

It supports client/server applications. Uses latest software development technique. It provides maximum oecrita of data. It can work on more than 75 operating systems.

It uses special file operating technique.

#### 6.5 **Designing Interface**

A paper prototype is always helpful in developing an ideal user interface, because it is somehow practical and developer can discuss it with the user, so a paper prototype of all the input screens was made and discussed with the user.

This discussion begin with the colour of the input screen and covered each and every object on the screen plus its functionality and proper responsibility etc. It is always difficult to meet all the user's requirement in a way the user likes. Anyhow we been able to get a satisfactory set of screens on the paper before actual user interface in developer 2000.

Developer 2000, provides a very sophisticated interface designer called the form designer.

### 6.5.1 **Developer /2000 forms designer**

Developer /2000 form designer select due to the following reasons. Provides an outstanding interface to its user as compared to its contemporary database developed software.

It is easy to use. It containing a list of all possible objects.

#### **BLOCKS**

The basic building blocks for forms designers are blocks. A form may contain one or more blocks. Each block may be associated with a base table or may be non base table. Each block is used to perform a specific task. There may be more than one blocks associated with a form.

#### **BASE TABLE**

Base table is a data base table on which it is based. A block associated with a base table; contains to fields of the base table.

#### **MASTER DETAIL RELATIONSHIP**

Master detail relationship exist between blocks in case presence of more than one blocks in a form. A master detail relationship si created

between blocks of a form when there exist records in the detail block corresponding to each record of master block or there is a primary to foreign key relationship between two fields.

### **LAYOUT EDITOR**

It is a full screen editor in which one can, quickly move fields around, add boxes and other text or changing the text displayed for a field.

### **TRIGGERS**

Triggers are a set of processing commands. All triggers are written in PL/SQL which is a procedural language integrated with an oracle data base.

Triggers are associated with event points in forms processing. An event is an action which occurs when a form is executed. They can be defined on a field or block or a form level. An example of an event is the operator pressing the key {COMM IT }. When this even occurs its associated trigger, i.e. KEY COMM IT fires executing the commands it contains.

## **6.6 Form Designing**

Forms design let one quickly develop form based applications for entering, querying updating, and deleting data. Here, one specifies his application, and the form designer combine the instruction with information in the ORACLE data dictionary ( which is a set of tables ) and form are explained in Chapter No.5



WINDOW1

## DATA DICTIONARY

GROUP_STUDENT	C_APP	STUDENT'S FEE-REG	APP_FR
CATEGORY_STUDENT	CAT_APP	FEE&ATTENDENCE	FR_AR
STUDENT'S ACTIVITY	ACT_APP	EXAMINATION & SUBJECT	SUB_E
STUDENT'S ATTENDENCE	APP_AR	OLD-STUDENT INFORMATION	OLD_STUDENT

Record: 1/1

Courier New

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**B**

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SUBMITTED FOR ADMISSION

Rel	Sex	Hby	Game	F Nam	F Dist	F Prot	Place	Years	Marks
ISLAM	MAI	NIL	HOCK	AHME	S-	WAP	MAN	2002	650
			EY	D	ENGIN	DA-	GLA		
				KHAN	EER	EMP			

1x

6.56

0.13



R No	21111	Form No	12	Br No	12221
D Date	02-AUG-2002	Year F	2002	Ad Fee	120
Re Ad Fee	0	T Fee	120	S Fee	150
L Fee	100	Clc Fee	25	Sp Fee	45
Lib Fee	25	Lab Fee	150	G Fund	100
B Fund	35	M Fund	60	Security	200
W Fund	20	E Fee	100	Reg Fee	350
Idc Fee	10	Fine	15	Rdf	75
Tot	1700				



C Code  Category

Form No   
G Code   
C Code   
E Code   
Name   
D O B   
P Add   
Per Add   
Rel   
Sex   
Hby   
Game   
F Name

Record: 1/?



Form No  Name

R No	<input type="text" value="21111"/>	Form No	<input type="text" value="12"/>	Br No	<input type="text" value="12221"/>
D Date	<input type="text" value="02-AUG-2002"/>	Year F	<input type="text" value="2002"/>	Ad Fee	<input type="text" value="120"/>
Re Ad Fee	<input type="text" value="0"/>	T Fee	<input type="text" value="120"/>	S Fee	<input type="text" value="150"/>
L Fee	<input type="text" value="100"/>	Clc Fee	<input type="text" value="25"/>	Sp Fee	<input type="text" value="45"/>
Lib Fee	<input type="text" value="25"/>	Lab Fee	<input type="text" value="150"/>	G Fund	<input type="text" value="100"/>
B Fund	<input type="text" value="35"/>	M Fund	<input type="text" value="60"/>	Security	<input type="text" value="200"/>
W Fund	<input type="text" value="20"/>	E Fee	<input type="text" value="100"/>	Reg Fee	<input type="text" value="350"/>
Idc Fee	<input type="text" value="10"/>	Fine	<input type="text" value="15"/>	Rdf	<input type="text" value="75"/>
Tot	<input type="text" value="1700"/>				

Record: 1/?

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1] \_ | 5 | X

Action Edit Query Block Record Field Window Help \_ | 5 | X



Insert Record

Sno4	<input type="text"/>
Name	SAJID MEHMOOD
Sesion	1978
Quali	MBBS
Job	DOCTOR
Addr	DHQ JHELUM
Desig	M. O
Tel No	JMR 159283

Record: 1/?

Start | | Developer/2000 Form... | Developer/2000 Form... | | 12:44 PM

Developer/2000 Report Builder for Windows 95 / NT - [SH6: Report Editor - Live Previewer]

File Edit View Insert Format Arrange Program Tools Window Help

Courier New 10 B I U

**OLD STUDENT REPORT**

Report run on: May 28, 1999 12:48 PM

Sesion	Quali	Job	Addr	Desig
1978	MBBS	DOCTOR	DHQ JHELUM	M. O
1976	MSC,PHY	TEACHING	F.G.COLLEGE KHARIAN CANTT	LECTURER
1978	BSC	ARMY	70 FFR LAHORE CANTT	LT.COL
1981	MCS	S/W ENG	H.NO 33 ST.NO4 IQBAL TOOWN,RWP	A.DIRECTOR

1x 3.31 1.06

Start Developer/2000 Form... Developer/2000 Repo... 12:48 PM

*Admission Form*  
**FEDERAL GOVERNMENT COLLEGE**  
**MANGLA CANTT.**



Admission Date \_\_\_\_\_ Roll No. \_\_\_\_\_  
Admission No. \_\_\_\_\_ Tutorial Group \_\_\_\_\_

1. Name of Student \_\_\_\_\_
2. Father's Name \_\_\_\_\_ Profession \_\_\_\_\_
3. Date of Birth \_\_\_\_\_ ( \_\_\_\_\_ ) Place of Birth \_\_\_\_\_
4. Present Address \_\_\_\_\_
5. Permanent Address \_\_\_\_\_
6. Religion \_\_\_\_\_ Domicile \_\_\_\_\_
7. Relationship to any present or former student, here state exact relationship \_\_\_\_\_
8. Name of Institution last attended \_\_\_\_\_
9. Examination Results : Year Roll No. Marks Division/Grade Board Subjects  
\_\_\_\_\_
10. Any Scholarship won \_\_\_\_\_

11. Have you claim to make for Fee Concession \_\_\_\_\_  
Note: False information given in admission form will make the student liable for removal from the college.

12. Course of Study (Tick one)
- Science Group (Subjects)    i) \_\_\_\_\_ ii) \_\_\_\_\_ iii) \_\_\_\_\_
- Humanities Group (Subjects) i) \_\_\_\_\_ ii) \_\_\_\_\_ iii) \_\_\_\_\_

13. What game or games you wish to play?  
State if member of School Eleven.  
(Attach supporting certificate) \_\_\_\_\_

14. The leisure time hobbies in which you are interested or which you would like to take up.  
If a Scout, give particular \_\_\_\_\_

15. What is your intended future profession or occupation \_\_\_\_\_

16. Following attested documents are attached:-
- a) Matriculaion Certificate/Result Card/Photo Copy 03 Nos
  - b) Character Certificate Photo Copy 01 Nos.
  - c) Father/Guardian Identity Card 01 Nos.
  - d) Legal document in case of dependent student 01 Nos.
  - e) Resident Certificate Original Copy 01. Nos

# Federal Government College

**MANGLA CANTT.**

No. 00502

Date 15-2-2002

Received from Wahid Mehmood

Roll No. 21022nd year P.E

Dues for \_\_\_\_\_ 199

Public Fund		Amount	
1. Admission/Re-admission Fee	...		
2. Tuition Fee	...		
3. Breakage Charge/Science Fee	...		
4. Parent/Teacher's Council Membership	...		
5. Late Fee	...		
6. C.L.C Fee	...	10	
7.	...		
8.	...		
<b>Total Public Fund</b>		10	
College Fund			
9. Sports Fund	...		
10. Library Fund	...		
11. Laboratory Fund (Science/Stat etc.)	...		
12. General Fund	...		
13. Building Fund	...		
14. Magazine Fund	...		
15. Welfare Fund	...		
16. Medical Fund	...		
17. Social Function	...		
18. Security	...		
19. Examination Fund	...		
20. Registration Fee (Board)	...		
21. Late Fee (Board)	...		
22. Identity Card Charges	...		
23. Library Card	...		
24. Fine (Special)	...		
25. Absent Fine	...		
26. Regional Development. Fund	...		
27.	...		
28.	...		
<b>College Fund</b>	<b>Total</b>		
<b>Grand</b>	<b>Total</b>	10	

*Wahid*  
Accountant