COMPUTERIZATION OF

EMPLOYEE INFORMATION SYSTEM

FOR

OPTICAL FIBRE SYSTEM REGION

OF

PTCL

BY

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&

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SUPERVISED

BY

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A project report submitted to computer center
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FINAL APPROVAL

This is to certify that we have read this project report submitted by **Muhammad Arif & Tariq Aftab** and found it sufficient standard to warrant its acceptance by the **Quaid-i-Azam University, Islamabad** for the **Post Graduate Diploma in computer science.**

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PROJECT BRIEF

roject Brief

roject Title	:	Computerization of Employee Information System For Optical Fibre System Region Of PTCL.
ndertaken By	:	Muhammad Arif & Tariq Aftab
upervised By	:	DR. GHULAM MUHAMMAD. Computer Center Quaid-i-Azam University, Islamabad.
tarting Date.	:	June 2000
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Muhammad Arif

&

Tariq Aftab

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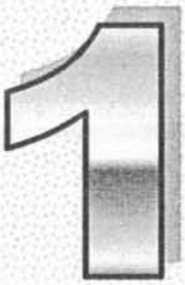
INTRODUCTION TO ORGANIZATION



THIS CHAPTER

- Introduction to OFS Region
- Structure of OFS Region

INTRODUCTION OF THE ORGANIZATION

old name of PTCL was T&T (i.e. Telephone & Telegraph). The T&T were established at the ion of Pakistan. Initially T&T were under the Federal Government but under the 15th of mber 1990, T&T became an independent Corporation. Then the new became Pakistan communication Corporation (PTC), which provide communication facilities to the public the passage of time.

ly 1996 PTC was renamed as PTCL (Pakistan Telecommunication Company Limited).

ORGANIZATION SETUP.

existing system of PTCL Optical Fibre System Region.

) DEPARTMENT OF THE ORGANIZATION

owing are the departments working in Pakistan Telecommunication Company Limited:

Planning

Establishment

Administration

Operation

Finance

branch of the financial department are stated as:

Budget Branch

Cash and Billing Branch

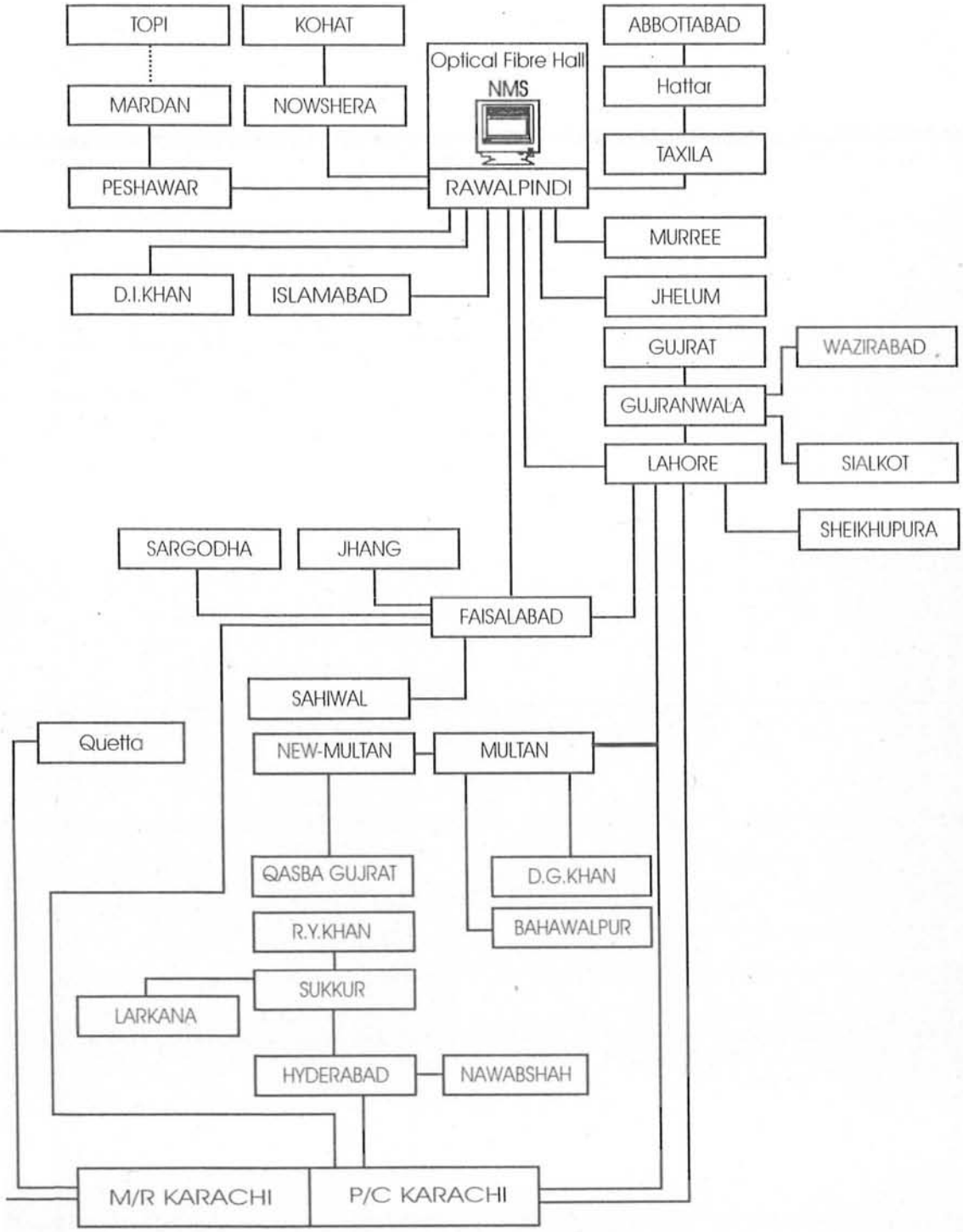
Welfare Brach

Finance department is headed by an Executive Director of Finance.

Executive Director is assisted by a deputy executive director, an assistant director, a deputy cal superintendent, an account officer, budget accountant and other subordinate staff.

) MAPS OF OPTICAL FIBRE SYSTEM REGION.

INTER CITY
DIGITAL CROSS CONNECT NETWORK



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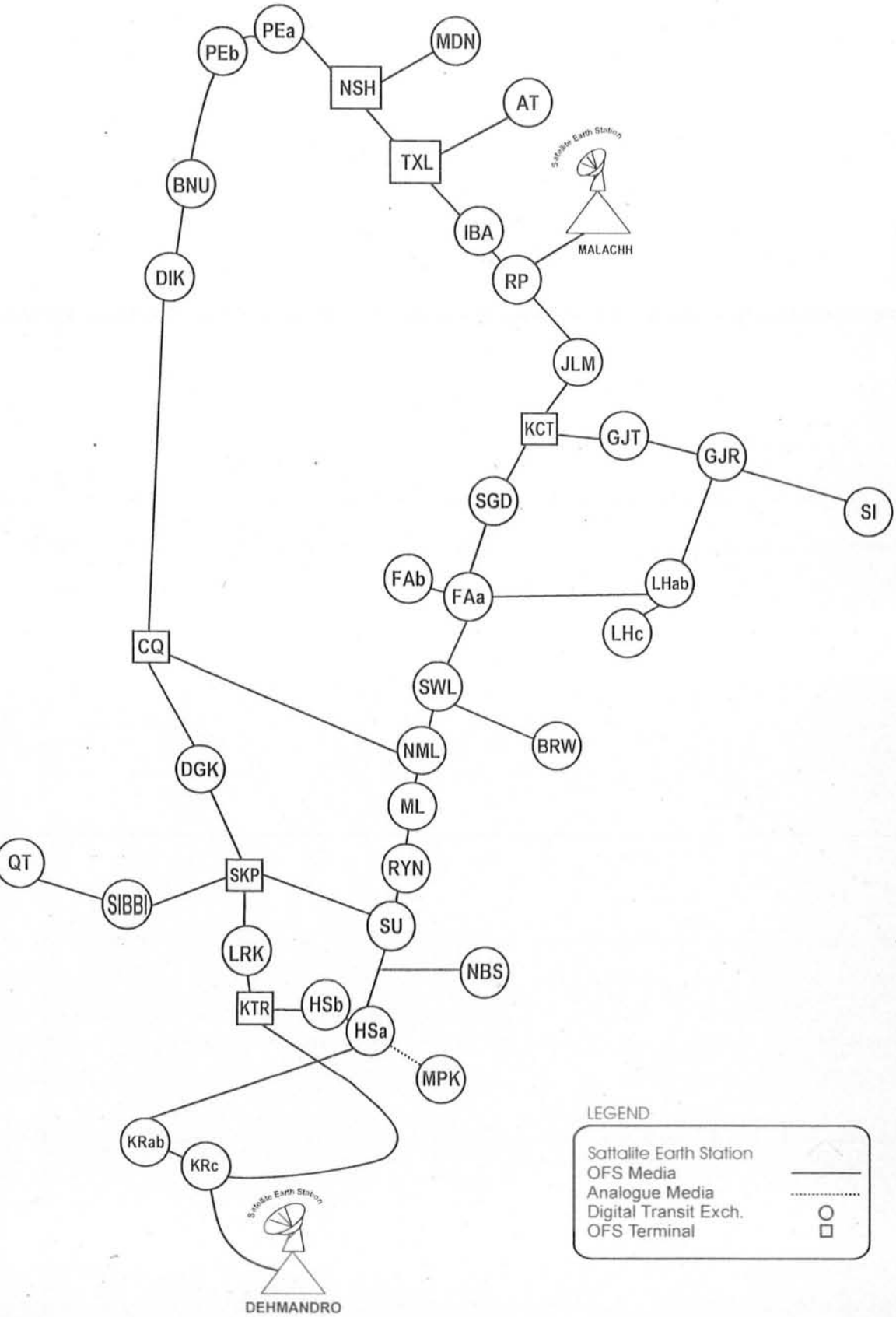
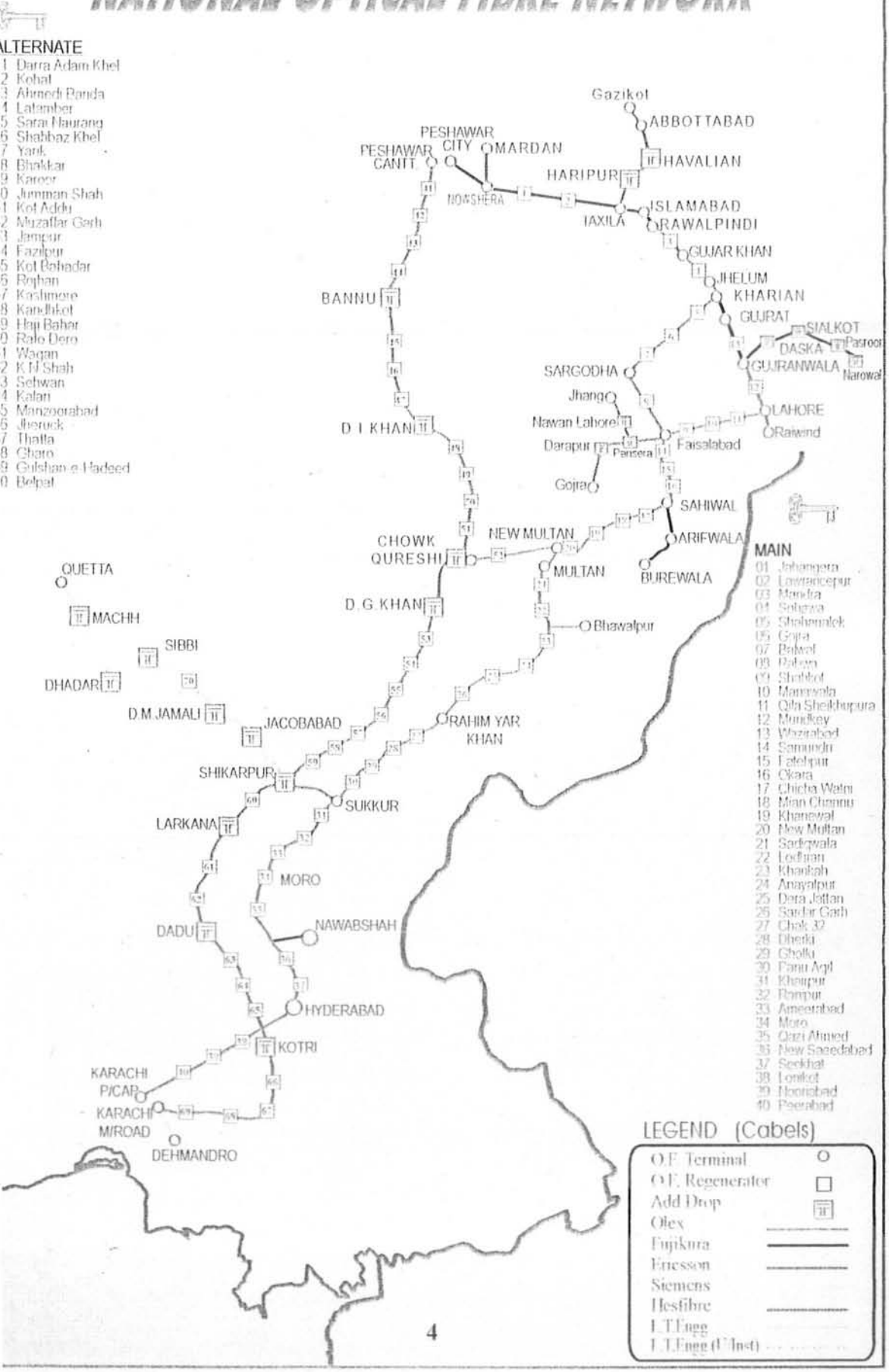


NATIONAL OPTICAL FIBRE NETWORK



What is Optical Fibre?

ptical Fibre are special fibres made of concentric layers of glass each of which has slightly, fferent index of refraction. The main ingredient in glass is sand, which is abundant on the rth. Optical Fibre carry information in the form of light on the principle of total internal flection.

What is the main purpose of function of Optical Fibre in Telephone Industry?

ptical Fibre has low losses, high security, immunity to RF interface, infinite bandwidth lephone industry has opted for Optical Fibre as transmission media for its long haul as well as ort haul communication. Optical Fibre is replacing microwave / digital radio wave media adually and in a few years all other transmission media other than Optical Fibre will be non-istent.

What are the reasons of growing popularity of Optical Fibre?

potential for huge bandwidth has made it popular and now it is considered as a sole option for tional as well as international voice / data traffic. The transmission rate is not bandwidth nited but it is equipment limited. At present equipment cannot generate data rate in excess of Gbit/s. but with the introduction of wavelength division multiplexing, a single pair of Fibre n carry traffic at rate of 2.4 Tera bit per second. Higher data rates are still being tested in oratory.

Where they are currently used? And what places they are planned to be used?

telecom industry Fibre is used for long haul and short haul communication. Submarine Optical re is used for international voice / data traffic. In past few years millions of kilometers have en laid under sea to link different countries around the globe. In telecom industry its other plication are:

Fibre to the Curb (FTTC)

Fibre to the Home (FTTH)

Fibre to the Building (FTTB)

Fibre to the Desk (FTTD)

r of images requires high bandwidth and copper wires cannot support high data rates. In ıure every organization will be demanding direct access to the Fibre thus eliminating the e bottleneck problem due to copper wire.

r uses are in medicine where it is used in medical equipment (like endoscope) to see the parts of body. Its other uses are in military, airplane industry and so on.

PROBLEMS OF EXISTING SYSTEM

RE OF THE PROBLEM:

ocess being carried out at all phases are the same and currently performing all the ıres and thus facing a lot of problems. All these problems stem from one single reason due to lack of Coordination among the system components and manual handling of the . A detail study concluded a need for an effective and efficient computerized system.

ganization is already computerized in some portions but, basically the problem does not n the computerization of the system but the problem is how to find the efficient and e method of computerization by designing a new database system on Medical ıtion System for **PTCL.**

lowing problems exist in the current system:

ge storage is needed for maintaining records.

ping the information in an organized manner is cumbersome.

ching for a particular information is very difficult and slows down the overall working of ystem.

ındancy and inconsistency arises keeping the information at various departments.

agement has to continuously keep in track of all the records and level of stock at various rtments and stores.

ther hand, recent technological development and its wide range of applications made r a vital tool in computation field. The computer job is fast and reliable. So the need for ized system is evident to enable quick computation, access and retrieval of information.

SCOPE OF THE SYSTEM.

re working on project, it is necessary to clearly define the scope of the system.

he boundary of the system is as follow:

mployee's and their dependent History Record

etail information about all possible reference cases (Consultation/Admission/Investigation)

OBJECTIVES OF THE PROJECT

- It is important to establish some objectives that a proposed system should meet. Following are the main objectives of the proposed system:
- The developed system should be more efficient and easy to use. It should give quick response to a user.
- It should be an accurate and error free system. For example, there should no chance of issuing same employee number to more than one employee.
- File maintenance should be fast and easy, i.e., records should be easily inserted, retrieved, deleted and updated.
- All required reports should be easily produced.
- It should meet all the requirement relating to the in Employee system.
- Generally information is scattered in different departments and access to integrate information is cumbersome. Implementation of this project would assist to manage integrated information at one place.

2

Review of Data Base Design

THIS CHAPTER

- Data Base Features
- Data Processing
- File Structure

Review of Database Design

Basic Terms Used in Database Design

Basic knowledge of Computer's technical terminology is very essential for understanding the concepts of computerized database. Description about some important computer terminology used in the project while designing trainees' database for OFS Region is as below:

Difference Between Data and Information

- **Data:**

  Element or unit of knowledge that may be regarded as raw facts, not necessarily meaningful. Most often data consists of numbers, such as the given values of input for the problem to be solved. Data must be discrete, consists of numeric, character, alphanumeric and some special symbols.

- **Information**

  Information is meaningful data that is relevant, accurate and update and can be used to take actions or making decisions. Raw data are transformed into information by data processing. Data processing not only includes numerical calculations but also other general operations.

Data Processing

Data processing consists of gathering the raw data as input, evaluating and placing it in some order (Ascending or Descending), sorting of data in logical sequence i.e. placing it in some proper perspective so that useful information is produced. All data processing whether done by hand or computer system consists or three basic activities.

- Capturing the Input Data.
- Manipulating the Data.
- Managing Output Results.

File Structure

To learn about computer files, we need to understand basic terms used to describe file chy. The terms we shall cover are by Byte, Data Item, Record, File and database.

- **Byte:**

A Byte is an arbitrary set of eight bits that represent a character. It is the smallest ressable unit of information in computers.

- **Data Item (Element):**

It is also called data field value. The smallest unit of data that can not be decomposed her. For example "Date" consists of day, month and year. They hang together for all practical pose. In other words one or more bytes are combined into in to a data item describe the ibute of an object. For example if object is employee, one attribute may be name, age, sex or No. A data item is sometimes referred as a field. Field is actually a physical space on disk ereas a data item is the data stored in the field.

- **Record:**

  Data items related to some object are combined into a record. A employee (object) has a record with his/her ID-No., Name, Address, Section, Batch Number, Data of Birth, Domicile, Qualification, Gender and concerned Incharge name etc. Each record has unique key or EMP_No. The EMP_No. could be used as an Identifier for processing the record.

- **File:**

  A collection of related records make up a file. The size of a file is limited to the size of memory or the storage medium. For example one data file is a collection of all records related to Employee personal history and other is collection of all records related to the performance evaluation of Employee.

- **Database:**

  The highest level in the hierarchy of file structure we have discussed so far is of *Database*. It is a set of interrelated files for real time processing. It contains necessary data for problem solving and can be used by several users accessing data concurrently.

What is a Database?

Database is a computer term for a collection of information concerning certain topic or any organization application. Database let you organize this related information into a logical fashion for easy access and retrieval.

Manual Filing System and Compute Based DBMS:

Most of us are familiar with the manual filing systems. These filing systems consists of paper files and file cabinets used to store these files. This view of manual database makes the point that paper is key to manual database system. In a real manual database system you probably have in out baskets and some type of formal filing method. You access a file manually by opening a file cabinet, taking out a file folder and finding correct piece of paper. Paper forms are used for input, perhaps with a typewriter. You access information form many papers into in to another piece of paper or even a computer spreadsheet. A calculator or a computer spreadsheet may be used for further analyzing and reporting the data.

A relational database management system (RDBMS) stores data in many related data file/tables, which lets the user ask complex question from one or more related tables and receives the answers to these question in the form of information such as forms and reports.

Management Information System (MIS)

MIS is person machine system and highly integrated grouping of information processing function designed to provide management with a comprehensive picture of specific operation. It is actually a combination of information system. To do the job it should operate in real time handling inquiries as quickly as received. Management Information must also be available early enough to effect a decision. Operationally, MIS should provide for file definition, file maintenance and updation, transaction and inquiry processing and one or more database. Within a MIS, a single transaction can simultaneously update all related data files in the system. In so doing data redundancy (duplication) and time it takes to duplicate data as in case of traditional filing system are kept to a minimum, thus insuring the data are kept current at times.

A key element of MIS is the database, a non-redundant collection of integrated / interrelated data items that can be proposed through application programs and available to many users. All records must be related to some way. Sharing common data means that many programs can use the same file or records. Information is accessed through a database management system (RDBMS). It is a part of software that can handle virtually every activities involving the physical database.

There are several advantages of a database system:

1. Processing Time and the number of programs written as substantially reduced.
2. All application shred centralized files.
3. Storage space duplication is eliminated.
4. Data are stored once in the database and are easily accessible when needed.

Database Management System (RDBMS)

The software that determines how data must be structured to produce the user's view, manage, stores and retrieved data and enforces procedures. It is an application software that controls the database, including overall organization, storage retrieval, security and data integrity. A DBMS can also format reports for printed output, and import & export data from other software application programs using standard file formats. We can say Oracle, FoxPro, dBase and Microsoft access etc are all Database Management System.

Database Design

Before the database concepts become operational, users had programs that handled their own data independent of other users. It was a conventional file environment with no data integration or sharing of common data across application. In a database environment common data are available and used by several users. Instead of each program (or user) managing its own data, data across application are shared by authorized users with the data software managing the data as an entity. A program now request data through the database management system (DBMS), which determines data sharing.

Objectives Of Database

The general theme behind a database is to handle information as an integrated whole. As discussed above, a database is a collection of interrelated data stored with minimum redundancy to serve many to serve many users quickly and efficiently. The general objective is to make information access easy, quick, inexpensive, and flexible or the users, several specific objectives are considered.

1) **Controlled Redundancy**

Redundant data occupies space and therefore is wasteful. If version of the same data are different phases of updating the system often gives conflicting information. A unique aspect of database design is storing data only once, which controls redundancy and improves system performance.

2) **Easy of Learning and Use.**

A major feature of user friendly database package is how easy is to learn and use.

3) **Data Independence**

An important database objective is changing hardware and storage procedures or adding new data without having to rewrite application programs. The database should be 'tunable' to improve performance without rewriting programs.

4) **More Information at Low Cost**

Using storing and modifying data at low cost are important. Although hardware prices are falling software and programming costs are on rise. This means that programming and software enhancement should be kept simple and easy to update.

5) **Accuracy and Integrity**

The accuracy of database ensures that data quality and content remain constant. Integrity controls detect inaccuracies where they occur.

6) **Recovery for Failure**

With multi user access to a database, the system must recover quickly after it is down with no loss of transaction. This objective also helps maintain data accuracy and integrity.

7) **Privacy and Security**

For data remain private security measures must be taken to prevent unauthorized access. Database security means that data are protected from various forms of destruction, user must be positively identified and their actions monitored.

8) **Performance**

This objective emphasizes response time to inquiries suitable to the use of the data. How satisfactory the response time is depends on the user database dialogue. For example, inquiries regarding airlines seat availability should be handled in few seconds.

EXISTING SYSTEM

3

THIS CHAPTER

- Deficiency in Existing System
- System Introduction

EXISTING SYSTEM

Drawbacks and Limitations of Present System.

A number of visits were made to different sections of RM branch of TSC to study the present manual training management system the major drawbacks and limitations of the existing system are as follows:

1 **Slow Processing During Data Handle**

All operations for compilation of trainees records are performed manually, so they require a lot of time for data retrieval. In a computerized system a variety of reports may be produced in very short time.

Existing system is less efficient it is difficult to handle whole trainees data manually present system is based on manual information flow. This information is not accessible to multiple user at the same time. Whole data is stored in files registers or loose papers so it is very difficult to maintain, handle, access, search and update the information this method makes office procedure very slow, and often it does not provide complete and accurate information.

2 **Possibilities of Errors of Calculations and Records Maintaining**

Since all the calculations are done manually, so there is a possibility of errors in maintaining records. Infect manual record maintenance and calculations require lot of laborious work.

3 **Redundancy**

The present manual system requires the creation of many files with large number of duplicate records, resulting in a high redundant data, that's why too much stationary is required to maintain this system due to unorganized, duplicated and distributed information there is a great chance of inconsistency in records.

4 **Security of Information**

There is no security of measures in presently running training management system because trainees data is stored on paper files which are open to all. The data can be lost, changed, destroyed or stolen form the files easily.

5 **Inflexibility**

The traditionally system cannot readily satisfy demands that was not anticipated in the original design.

6 **Inefficient Updation**

The insertion, deletion and updation are cumbersome and time consuming job.

7 **Need of More Working Staff**

Present system does have some computer facility but the staff is untrained to use those computers properly but only as an electronic typewriter. Mostly all activities are being performed manually. This implies need more employees, which could be done with fewer staff indeed. So this existing system is not only cumbersome but also expensive.

8 **Lack of Co-ordination**

There is lack of co-ordination and communication among the staff. To seek any information about a particular function in office a person or a new comer in staff has to depend a lot upon others.

9 **Decision Making**

It has observed that slow processing of information is creating several problems for the administration. However, a computerized approach may be beneficent to the management for quick decision making, as they would get required information in second or minutes rather than in days or months.

Non-Centralized Data Control

Due to non-centralized data different users cannot use it at the same time. There also inconsistency of records. Also it is very difficult to carry out any type of analysis on available data for decision making because manual computation of reports involves a lot of computations and hence is impractical.

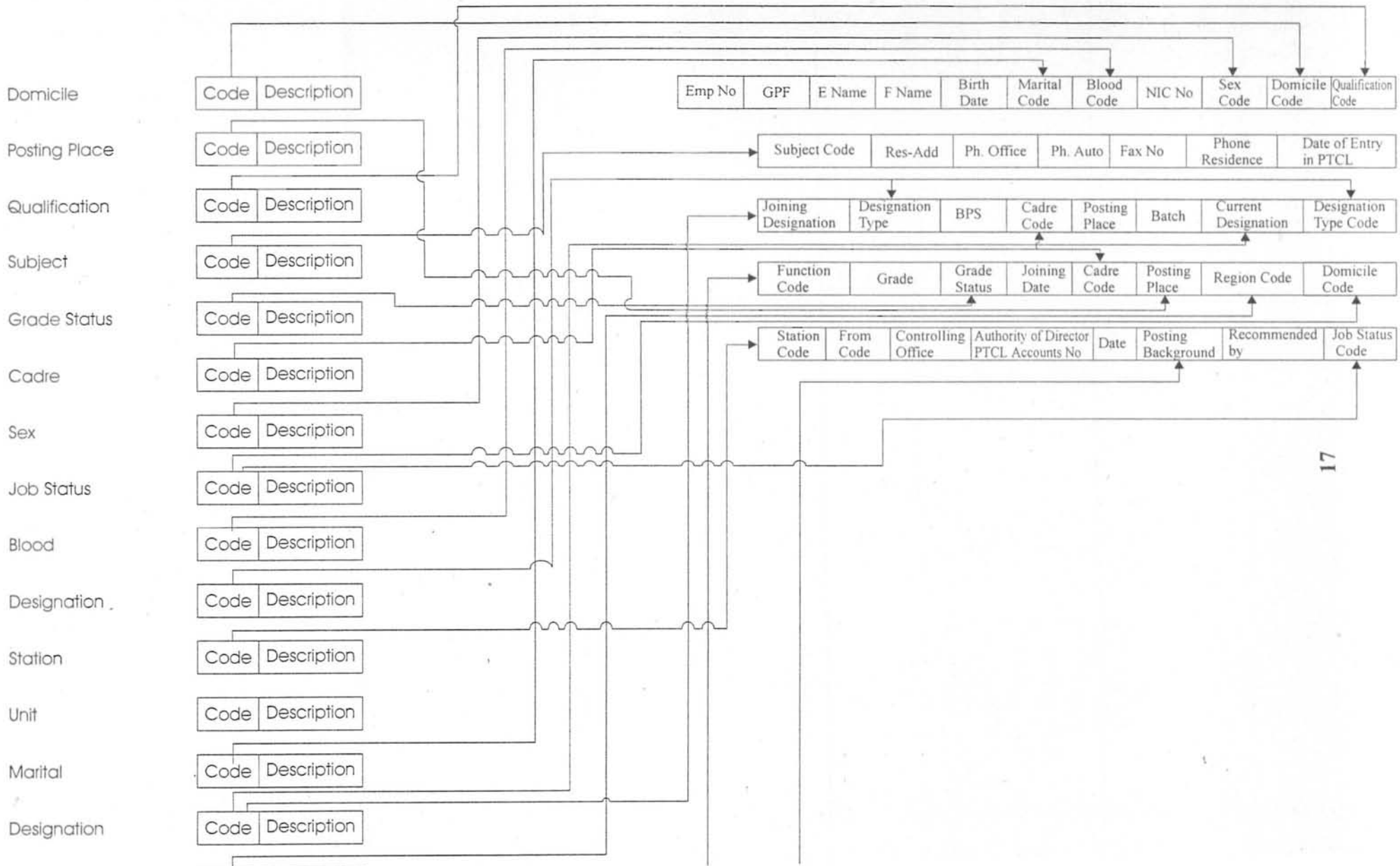
In short the present training management system is quite slow and cumbersome so TM branch faces a lot of problems, during the period of dealing with information about trainees, a lot of precious time is wasted and records maintain process will be affected. As the records are not being maintained properly, time to time information required by the higher authorities cannot be received right information at the right time, which create much compilation and problems for the concerned persons and also for department. Due to these problems and limitations the whole set-up the department is badly affected. So it is strongly felt to build a new computerized training management system for TSC. Keeping in views of above drawbacks in existing system computerization of TM branch is indispensable.

Need for Computerization

Most of the people believed that computers were only to be used for mathematical or scientific purpose, but contrary to that belief it has been proved, they can be use even more efficiently for commercial applications. There are maximum organizations have been computerized so for. No one organization can be run without the computer based system particularly in this development era. Although the people hate the computer because the believe that computer caused a lot of employment by taking over most of clerical jobs, studies show that this is true in only one-tenth of the cases and in most cases the displayed workers are transferred to the computer field. Keeping all these things in view, it is now a days every person desire to do his work in less time. So automatically the head of an organization and for quick decision-making. Unfortunately, the handling of information is a big problem in large organizations. The head of an organization has to do a lot of paper work with leaves him less time for planning a new type of information is needed. The computerized system should be able to collect, store, update process and distribute the information easily. The ready solution that sprints to one mind is the use of computer.

3.3)

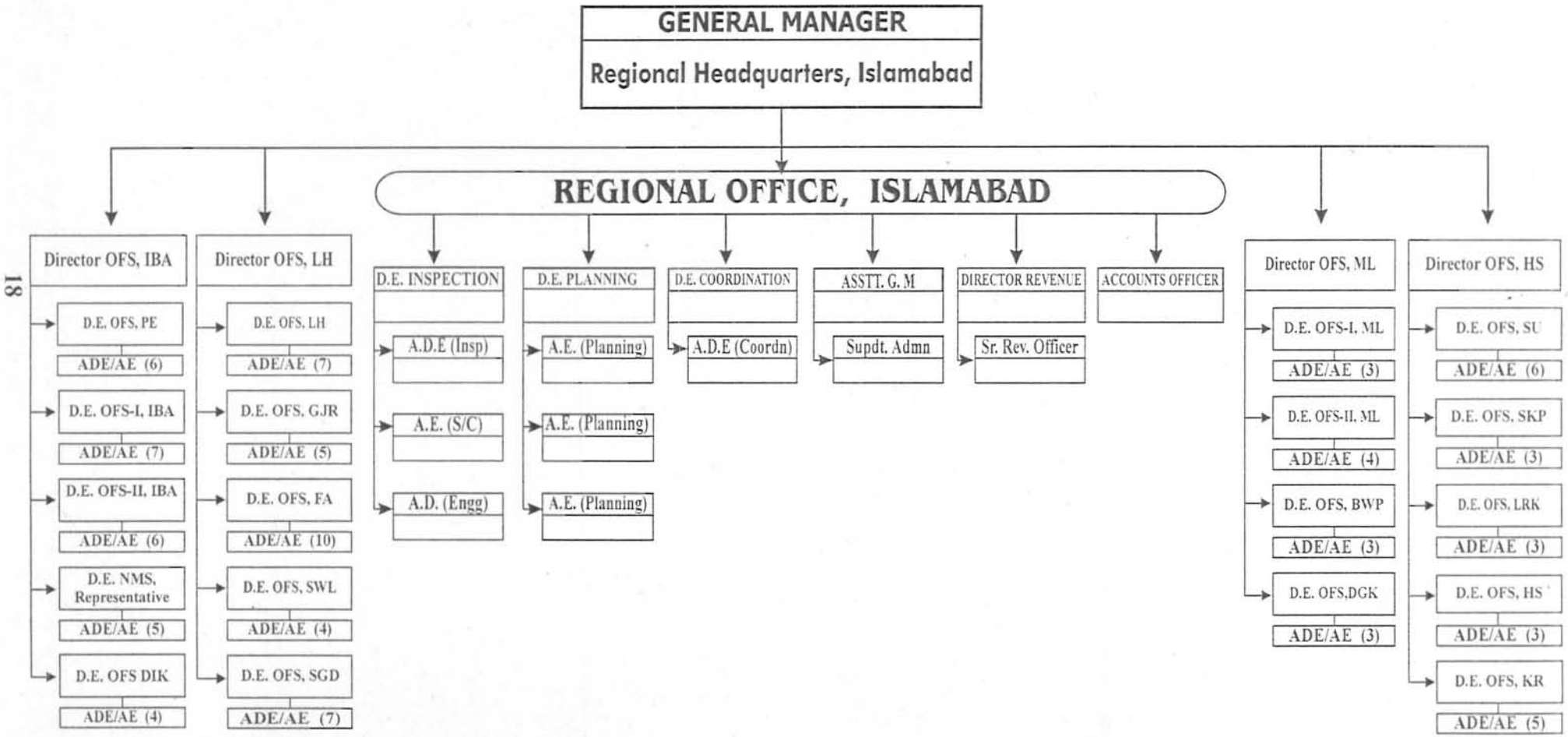
BACHMENN DIAGRAM



ADMINISTRATIVE SET-UP

OPTICAL FIBRE SYSTEM REGION,

ISLAMABAD.



INTRODUCTION:

organization whether large or small use information system to maintain the important s of information which are vital for its existence. So such a system should exist in every ization which maintains the updated information about organization.

chapter is about the concepts of existing personal employee information system of the al Fibre System of PTCL. Which is based on the conventional file environment.

4

Proposed System

THIS CHAPTER

- Introduction to Proposed System
- Objectives of Proposed System
- Advantages of Proposed System

Proposed System

Introduction

The employee information system of OFS Region of PTCL there appeared many ms like accuracy of information, in-efficiency, slow access and retrieval of information t present almost all procedures are functioning manually, not precise, time consuming and nomical. Before the system was developed, a number of visits were made to OFS office to the present manual system. A number of problems were pointed out, by the concerned e, in the present system to keeping the above aspects in mind a computerized training gement system is suggested. Computerized means to change over from a manual system to puter based system. As stated earlier, the existing system is manual, so a new computerized n is proposed keeping in mind all the problem are being faced by the department.

bjective of the OFS Region can only be achieved if the computer based system is satisfying llowing conditions:

ne system should provide accurate and error free information, needed for decision making.

oposed should be acceptable to the organization design standards.

stem should be implementable in terms of technical feasibility and due to the available ources.

e proposed computer based system should be more efficient than manual system.

e system should be sufficiently flexible to cope with changes in terms of objectives lume, frequency and activity.

posed system should provide a smooth flow of information form one step to the next there avoiding needless back tracking and duplication.

stem should be compatible with other systems.

e proposed computer based system should be most effective and cost beneficial.

posed system deals with the following three phases.

The study phase.

The design phase.

The development phase.

The Study Phase Parameters

1. Problem definition.
2. Objectives of the proposed system.
3. Recommendation for a feasible system.
4. Development of system data flow.

The Design Phase Parameters

1. Identification of functions to be performed manually or by computer.
2. Development of input output & file design.

The Development Phase Parameters

1. Development of computer programs.
2. Conversion from old to new system.
3. Testing of new system with dummy data.
4. Testing of system with real data.
5. Hand over the system.

Objectives of Proposed System

As stated earlier the existing system has got some drawback and there is a lot of room of oving it. In order to develop a system efficiently and economically it is necessary to chalk he aims and objectives of the proposed system. This approach is helpful in the physical and al designing of the system and also helps in finalizing the files structure and how they ld be organized. The prime objectives of the proposed system are given below:

1. New system should be more efficient. There should be quick retrieval of information.
2. It should be error free & reliable.
3. It should be flexible enough to accommodate any sort of changes in the structure of files.
4. The system should be user friendly and self-explanatory.
5. Redundancy should me minimum.
6. Data independence should be achieved.

The Proposed Computerized Employee Information System.

On the basis of study phase, it is decided that there is only way to overcome the backs of the present manual system is to computerize it. An integrated computerized system relieve the General Manger of the Region form routine clerical and analytical work. The eral Manager will be able to concentrate on other problems, with all the needed information rated by the system. Some advantages of computerized system are:

- Mass storage of data.
- Data storage is done in a fashion, which reduces redundancy.
- Expansion accommodated without much problems.
- Stored data can be shared.
- Consistency of data.
- Data integrity can be maintained.
- Rapid data processing.

With the advancement in the computer software, it is possible to design a database m which is flexible and easy to maintain. The time to produce reports can be decreased days/weeks to a matter of minutes.

proposed system involves:

nput forms design

'ode design

reation and maintenance and data files

eports generation

Input Forms

Form is a tool with message, it is the physical carrier of date – the information. It also can tute authority for action. With this in mind, it is hard to imagine a business operating ut using forms. Forms are the vehicles for most communications and the blue print for activities. To input the data in the system, input form has been designed. The input for easy lerstand by the user. There are three basic input forms for employee. Well designed forms : the probability of error during data entry.

Use of Codes

Codes are efficient means of storing information, which is repeated and takes extra space. rent codes are used to minimize the difficult work for data entry. These codes are defined lesigned by the system. When codes are asked to enter, online help is provided for user enience. Codes also provide faster and efficient retrieval of information. All the codes used e system are permanent.

Creation and Maintenance of Data Files

Once the data files are created, there is need to maintain them. This maintenance of files involves:

nsertion of a record

Iodification of record

)eletion of records

Insertion of a Record

Insertion means the addition of a new record in the file. Whenever a new trainee is reported his record has to be inserted in files. A number of screens have been designed for date entry in the system. Al l the files in the proposed system are indexed sequential, so every record in the file has a unique identification called the key of that record. When a new record is added, it's key is compared with all the records the records present in the file. If a much is found, the system warns that "Record Already exist". The facility of overwriting is also available.

All the possible checks (on different fields) are included in the insertion programs/modules to minimize the chances of wrong data entry.

Modification of a Record

This system offers some user-friendly menu driven facilities in order to incorporate any change in the existing data, whenever it is needed. After choosing the modification menu and the concerned file, the system requires key of the record to be modified. Necessary information about that record is displayed on the screen. The user can access any field by moving menu bar or directly entering the hot key of that filed. After modification the

option is still there to save the modified record of not. Facility of modifying more fields of this record is also present.

Deletion of a Record

If a record is no more needed, it should be removed from the file. So a part of maintenance program is reserved for this task. For deletion, after choosing the deletion menu and the particular file, the system requires to input the key of that record which is to be deleted. Necessary information about that record is displayed on the screen. An option is still there to delete the record or not. If the user is positive the record is deleted from the file otherwise not. Option of deleting more record is also available.

Report Generation

Report generation is another major part of this project. Different reports that are generated in this software are as follows:

- Employee number wise report
- Blood group wise report
- Posting place wise report
- Function wise report
- Grade wise report
- Designation wise report

Proposed File Organization

Since data concerning to this project sometimes needs sequential access and sometimes it calls random access. So keeping in view the requirements, indexed sequential file organization is proposed due to the following advantages.

- The ability to retrieve records randomly as well as sequentially.
- To make addition to the file without having to sort and merge the addition while copying the entire file.
- Duplication is completely eradicated.
- No extra search is required if a desired record is absent.
- Arm motion is minimized during sequential or random retrieval.

Advantages of Proposed System

- Duplicate work, paper work and inefficient storage work will be eliminated. Direct saving like elimination of certain cost of stationary and space. Also cutting of expenses by hiring less manpower.
- New system has great flexibility of modification.
- Efficient data access by the users.
- Reliability and consistency are the significant factors, which have been enhanced in the system.
- Transportation of mini diskette will be easy and safe.
- In the computerized system the information required by higher authorities is available to them with in no time. The decision made with the right data at the right time, has positive effect on the organization.

Hardware Selection

Recommendation for type and quantum of hardware for optimum utilization can only be finalize after detailed review of operations to the computerized and the detailed definition of coverage of each package following hardware selection is recommended for this particular software:

- Pentium 133 MHZ computer as file server (minimum).
- Dot matrix printer for reports.
- Ram 32 MB.
- Hard Disk 2.1 GB.

SYSTEM DESIGNING

THIS CHAPTER

- Introduction
- Input Design
- Code Design
- Form Designing
- Data Base Design

SYSTEM DESIGNING

Introduction

When the system is completely studied and thoroughly examined, the objectives are set and the proposed system is chalked out, we are now in a position to design a new system which will be free of shortcomings of the present system and will be intelligent enough to meet the requirements.

The system design was undertaken in the following steps.

Input Design

The style of input is established during software requirements, analysis and design. However, the manner in which input is implanted can be the determining characteristics for system acceptance by a user community. The reliability and efficiency of a system very much depends on the well defined input design. For a system developer, the user satisfaction is the main objective to achieve. A well-defined input will facilitate the user.

Phases of input design are discussed as below:

5.2.1 Code Design

A code is a brief number, which is assigned to an entity having lengthy name or description. Then that entity is recognized with the assigned number in the whole system. The codes, which are combination of digits, are encouraged. Its purpose is to save storage, save date entry and to make information retrieval easy. At the end, these codes are decoded with in the program and then decoded information is displayed as output to the user. Codes used in the proposed system are:

- Province Code
- Region Code
- Designation Code
- Cadre Code
- Sex Code
- Subject Code

5.2.2 Input Specification

According to requirements of the existing system, input of the proposed system has been decided. General characteristics of the input screens are as follows:

- **Choice List**

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

- **Popup Lists**

A popup 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 purpose. Whenever a user logs in he will have to provide his identification, by typing the password.

- **Exception Handling**

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

- **Input Validation**

Inputs to the system are handled with care so that user can not proceed without entering valid data.

- **Modification and Deletion**

No system is complete until it is provided with facility of modification and deletion. Often operators input records having errors or records, which are not supposed to be stored in first place. System provides the modification and deletion facilities after retrieval of record on which processing is required.

5.2.3 Form Design

Accuracy of data depends on the well-designed data collection forms. Input forms are designed to collect the source data needed for the database. The format of the forms should be such that is no difficulty in understanding and filling them.

5.2.4 Database Design

Database design is the core of the system development. By knowing the requirements of the user, development side designs the database. 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 engineering is to define the information to be contained in a database. Database design for the under discussion system is on the next page.

ble Name — Blood Group
mary Key — Code
scription — This table contain the information of the Blood group of an employee

lumn Name	Data Type	Quantity	Constraint	Description
de	Number	15	Not Null	Blood group code
scription	Varchar 2	35		Blood group description

ble Name — Cadre
nary Key — Code
cription — This table contains the information of the Cadre of an employee

umn Name	Data Type	Quantity	Constraint	Description
le	Number	15	Not Null	Cadre code
cription	Varchar 2	35		Cadre description

le Name — DD - Unit
nary Key — Code
cription — This table contain the information about the Drawing and Disbursement.

mn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	DD-Unit code
ription	Varchar 2	35		DD-Unit description

ble Name Designation
mary Key Code
scription This table Contain the information about the Designation of an employee

umn Name	Data Type	Quantity	Constraint	Description
le	Number	15	Not Null	Designation code
scription	Varchar 2	35		Designation description

ble Name Designation-Type
mary Key Code
scription This table contain the information about the Designation-Type of an employee

umn Name	Data Type	Quantity	Constraint	Description
le	Number	15	Not Null	Designation-Type code
scription	Varchar 2	35		Designation-Type description

ble Name Domicile
mary Key Code
scription This table contain the information about the Domicile of an employee

umn Name	Data Type	Quantity	Constraint	Description
le	Number	15	Not Null	Domicile code
cription	Varchar 2	35		Domicile description

le Name Function
ıary Key Code
:ription This table contain the information about the employee

ımn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Function code
:ription	Varchar 2	35		Function description

e Name Grade
ıary Key Code
cription This table contain the information about the Grade of an employee

ımn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Grade code
cription	Varchar 2	35		Grade description

e Name Job Status
ıary Key Code
cription This table contain the information about the Job status of an employee

ımn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Job status code
cription	Varchar 2	35		Job status description

le Name Marital
ıary Key Code
cription This table contain the information about the Marital of an employee

ımn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Marital code
cription	Varchar 2	35		Marital description

e Name Posting place
ary Key Code
ription This table contain the information about the Posting place of an employee

mn Name	Data Type	Quantity	Constraint	Description
	Number	15	Not Null	Posting place code
iption	Varchar 2	35		Posting place description

le Name Posting Background
nary Key Code
cription This table contain the information about the Posting background of an employee

umn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Posting background code
cription	Varchar 2	35		Posting background description

le Name Qualification
nary Key Code
cription This table contain the information about the Qualification of an employee

umn Name	Data Type	Quantity	Constraint	Description
le	Number	15	Not Null	Qualification code
cription	Varchar 2	35		Qualification description

le Name Region
nary Key Code
cription This table contain the information about the Region of an employee

umn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Region code
cription	Varchar 2	35		Region description

e Name Sex
ıary Key Code
:ription This table contain the information about the Sex of an employee

umn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Sex code
:ription	Varchar 2	35		Sex description

e Name Station
ıary Key Code
cription This table contain the information about the Station of an employee

umn Name	Data Type	Quantity	Constraint	Description
e	Number	15	Not Null	Station code
cription	Varchar 2	35		Station description

e Name Serv_Info
ign Key Joining Designation, Designation Type, Cadre Code
cription This table Contain the Service information about the employee

umn Name	**Data Type**	**Quantity**	**Constraint**	**Description**
_of Entry TCL	Date	10		Entry in PTCL
_Desig	Number	15	Jo_FK	Joining Designation
g_Type	Number	15	Des_FU	Designation Type
	Number	5		Basic pay scale
re_code	Number	15	Cod_FU	Cadre code
h	Chak	30		Batch
ority	Chak	30		Seniority

ble Name PERS_INFO
reign Key Code 1,2,3,4,5, Sub-Code
escription This table Contain the Personal information.

olumn Name	Data Type	Quantity	Constraint	Description
np_No.	Number	10	Not null	Employee number
PF	Number	7		General provident fund
np_Name	Varchar (2)	30		Employee name
name	Varchar (2)	30		Father name
OB	Date	10		Date of birth
ode 1	Number	15	C_MAL_FK	Marital code
ode 2	Number	11	C_BLI_FK	Blood group
C #	Number	13		National IC card number
ode 3	Number	15	C_SCI_FK	Sex code
ode 4	Number	15	C_DOI_FU	Domicile code
ode 5	Number	15	C_QUAI_FU	Qualification code
b_code	Number	15	C_SUBI_FU	Subject code
s_Addr	Char	35		Residence address
l_Office	Number	15		Phone office
l_Auto	Number	15		Phone Auto
x_No	Number	15		Fax number
l_Res	Number	15		Phone residence

e Name	Post Information
gn Key	Current Designation
	Designation Type
	Function Code
	Grade Status
	Cadre Code
	Posting Place
	Region Code
	DD_Unit
	Station Code
	Posting Background
	Job Code
ription	This table Contain the Posting information of employee.

Column Name	Data Type	Quantity	Constraint	Description
nt_Desig	No	15	CUR_SK	Current designation
_Type	No	15	DE_SK	Designation type
Code	No	15	FUNC_FK	Function code
	No	10		Grade
tus	No	15	GST_FK	Grade status
Date	Date	10		Joining date
_Code	No	15	CA_FK	Cadre code
g_Plac	No	15	PP_FK	Posting place
n_Code	No	15	RC_FK	Region code
nit	No	15	DD_FK	Drawing & Disbursement unit
n_Code	No	15	SC_FK	Station code
Date	Date	10		From date
lling_Off	Char	40		Controlling office
Dir_PTCL_Acc	Char	40		Authority of Director PTCL Accounts
e	Date	10		Current date
l_Back	No	15	PB_FK	Posting background
ode	No	15	JC_FK	Job code

SYSTEM TESTING AND IMPLEMENTATION

THIS CHAPTER

- Introduction
- Tool Selection
- System Development
- Testing
- Implementation

System Testing and Implementation

Introduction

Once the new system has been proposed and designed next phase of system life cycle is system development and its implementation. The cost and the difficulties of developing software systems are well known. Accordingly, as the costs of computer hardware have decreased, it has become cost-effective to provide individual software engineers with automated tools to support the software development process. Although it is possible to operate CASE tools in conjunction with application systems, it is generally the case that software development is best supported on a separate system which is called a software development environment.

Software development is a collection of software and hardware tools, which is explicitly tailored to support the production of software systems in a particular application domain.

Tool Selection

Tool selection for the system development is also a considerable issue. Because it depends on the designed system, whether the tool selected for development will fully support the design of the proposed system.

After considering a number of Database tools, Oracle/Developer 2000 version 7.0 was selected for this project. Why this tool was selected? There are many significant features that have kept Oracle to the top of the growing information management.

Following are the major attributes of Oracle:

Security Mechanism

Oracle's sophisticated security mechanisms control access to sensitive data by assortment rivileges. Users are given rights to view, modify, and create data based on the name they use onnect to the database. Customers use these mechanisms to ensure specified usr get to see itive data, while others are forbidden. Also oracle has operating system files, called Online o Log. The sole purpose of this file is for recovery against unexpected failures.

Performance Reasons

Oracle use Redo Log files to record changes or transactions that happen to the database. changes are made to the database, these changes occur in memory. Oracle handles these nges in memory for performance reasons.

Backup And Recovery

Oracle provides sophisticated backup and recovery routines. Backup creates a secondary copy of Oracle data. Recovery restores a copy of data form that backup.

Space Management

Oracle offers flexible space management. You can allocate disk space for storage of data and control subsequent allocations by instructing Oracle how much space to set aside for future requirements.

Open Connectivity

Oracle provides open connectivity to and from other vendor's software. Using add-ons to Oracle database you can work with information that resides in other data repositories.

Client/Server

Oracle Server provides the facility of accessing data from their personal computer via a vork and the database sits on a separate computer.

Distributed Option

Oracle's distributed option provides the facility of accessing a database spread across e than one machine, and the users are unaware of the physical location of the data.

Parallel Server Option

The parallel server option allows Oracle to operate with the configuration of clustered puters. Each machine in the cluster has its own memory, yet they have common disk storage ces.

allel Query Option

When using the parallel query option on multi CPU machines, Oracle dispatches a ber of query process that work alongside one another. They partition the query processing work simultaneously.

System Development

The development phase translates a set of requirements into an operational system ent, which we call software. Programming language characteristics effect the reusability and tainability of the system.

Development Approaches

During development of the system following approaches are used.

Top Down Approach

In this approach we start form the top and then go towards the bottom. For example, first we developed the main program and then its subprograms are developed.

om Up Approach

It is inverse of the top down approach because in bottom up we start from the bottom and wards the top. That is each sub module is developed independently and then at the end main nerated.

ed Approach

This approach is a combination of both top down and bottom up approaches. Because part of the system is focused on top down and other on the bottom up.

I use bottom up because in this approach all the programs are developed and designed rately. Advantage is that very module is tested separately and when the developer is satisfied modules are linked to the main module.

Main features used in my projects are:

ns

The style of forms used in the system development is same as in A.W.T for the ease of ser. Designed forms are already discussed in the previous chapter.

Forms get data from the user as input and then this data is stored in the database of the le.

orts

Different reports are generated on the basis of the queries asked by the concerning orities. The format of reports is kept very simple, so that these can be understandable out any effort.

ggers

Most of the transactions are carrying out through triggers. For example any change in one e table will automatically update the information concerning to that event. Triggers are very h used in event-driven systems.

ks

Blocks are logical containers that have no physical representation. Only the items ained; in a block are visible in the form interface. Each block is directly related to a single base table. This table is known as Base Table.

System Testing

Software Testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. If testing is conducted successfully, it will uncover errors in the software. Testing demonstrates that software functions appear to be working according to specification, that performance requirements appear to have been met. In additions, data collected as testing is conduced provide a good indication of software reliability and some indication of software quality as a whole.

Three types of testing are conducted in the proposed system.

1) Unit Testing
2) Integration Testing
3) System Testing

Unit Testing

Unit Testing focuses verifications effort on the smallest unit of software design-the module. Using the detail design description as a guide, important control paths are tested to uncover errors within the boundary of the module. The relative complexity of tests and the errors detected as a result is limited by the constrained scope established for unit testing. The unit test is always white box-oriented, and the step can be conducted in parallel for multiple modules.

Integration Testing

Integration testing is a systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. In this technique all modules are combined in advance. The entire program is tested as a whole. And chaos usually results A set of errors are encountered. Correction is difficult because

the isolation of causes is complicated by the vast expanse of the entire program. Once these errors are corrected, new ones appear and the process continues in a seemingly endless loop.

System Testing

When a defect is uncovered "finger pointing" system testing problem is occurred, and one system element developer blames another for the problem. Under these conditions software engineers should plan and design system tests to ensure that software is adequately tested.

System Testing is actually a series of different tests whose primary purpose is to fully exercise the computer based system. Although each test has a different purpose, all work should verify that all system elements have been properly integrated and perform allocated functions.

Implementation

The implementation view of software requirements presents the real world manifestation of processing functions and information structures. Implementation view should not necessarily by interpreted as a representation of how. Rather an implementation model represents the current mode of operation, that is the existing or proposed allocation for all system elements. This phase of the software development provides the system testing and conversion. The existing is either completely replaced by the new one or partly changed but is must meet the requirements of the end user.

System Conversion

After the successful completion of testing, conversion of the old system into the new system is carried out. There are following methods of the system conversion.

1) Direct Conversion
2) Phase in Conversion
3) Parallel Conversion

Direct Conversion

In this technique of the system conversion, new system is completely adopted, as the currently working system and the old system has completely been abundant. But there is risk involve in this approach, because if the new system fails then the important data may loss if the backup of the old system is not present that can cause users dissatisfaction.

Phase-In-Conversion

The phase-in method is used when it is not possible to install a new system through an organization all at once i.e. it will be brought in gradually. In this type of conversion long phase-in period create difficulties.

Pilot Conversion

In this approach of system conversion, first conversion is applied on the small part of the old system or on another system that is similar to the old system and then if satisfied results occur pilot conversion to the remaining part of the existing system. It is done to save heavy financial loss.

Parallel Conversion

In this technique, old and the new system start working in parallel for a period of time. User continues to use the old system and the new system simultaneously. This method is safest conversion approach since it guarantees that, if problems arise in using the new system, the organization can still fall back to the old system without loss of time.

7

System Evaluation and Future Enhancement

THIS CHAPTER

- Features of Implemented System
- Future Enhancement

System Evaluation and Future Enhancements

In the evaluation phase, implemented system is compared with the old system for ency and performance reasons. We evaluate that new system is meeting the requirements or

Features Of Implemented System

Main features of the new system are as under

ist Of Values

Fields that have no. of choice option are provided with list of values. As the cursor es there a list of values will be appear. It advantages in a sense that even a layman can se one of the values.

fficiency

Efficiency feature counts a lot in the fulfillment of the end user. Codes are assigned to entities of the new system. Codes are abbreviated numbers that represent an entity. When ntity is referred in the system instead of using the full name of that entity only it's code will red. For example, codes represent designations, divisions, allowances etc.

esponse Time

Efficiency of the system can also be compared with the average response time taken to nd an action. Queries and reports are implemented in efficient manners so that whenever anagement requires asking a query, the system will respond within no time.

ecurity

Reliability of the system very much depends on the fact that how much system is securest es security, passwords on the important files and data are applied. If an unauthorized person ttempt to access or delete a file system will prompt the password to the user.

asy To Use

The implemented system is fully menu-driven which will help the user to interact with ystem easily. On line help is provided and when the wrong option will be selected error age along with correct option will be appeared on the screen.

Redundancy

There was no proper method of keeping record of those employees who have taken loan salary advances. Also at the time loan recovery it became difficult to know that the current llment is against general A.W.T. loan or provident fund loan. In the current system this ication and ambiguity is fully controlled.

Modularity

New system is developed in number of modules. These modules are independent of each r, so that if one module is updated it will not effect the performance of the other module.

Consistency

From design to implementation consistency of the system is maintained not to create guity for the user. Consistency means for example if codes are assigned to and entity, they remain the same in all phases of the system.

Flexibility

Implemented system is highly flexible in a sense that it provides the ease of modification, nsion and future enhancements.

Future Enhancements

Every software system has flaws and drawbacks in it. Because the values of the things with the passage of time, so a system developed now may be effect under the present itions but its performance may decrease under different conditions. A good software system have the tendency and capability to adopt the changes, which may occur in future.

Keeping in mind all these possibilities, currently discussing system is designed and oped in such a way that it will accumulate all possible present and future requirements.

For example if the organization requires to setup new region, the software will allow this ty to the user by making simple changes in the software i.e. by entering a region code and n name to the new form.

Similarly on management demands, new queries and reports may design by making e changes.

USER GUIDE

THIS CHAPTER

- Getting Started.
- Working of System

USER GUIDE

Introduction

This chapter is written, as to give detailed working and understanding of the system. Chapter is appropriate both for the experienced programmer and for the novice programmer. It includes the step by step working of the system, so that operator doesn't have to face any king of irritation while operating the system.

Getting Started

Oracle is operating system independent and can run on the most operating systems. But as developer is used for front end, therefor the operating of Win 95/ Win NT etc is required. Once Oracle/Developer is installed, make an account for the database manipulation of the proposed system.

Installation Guidelines

Pick the disks labeled *.fmb, one by one and copy all the files into the directory say C:\Orawin\Forms45. After you are finished with those disks pick the disk labeled as database, it will have the file named System.Dmp. Expand database tables into the desired account through the use of export facility.

Logging

Each time you wish to run the system, be sure that oracle is running and all the database for the required system has been mounted. To run the system, first, start Oracle and proves it required user name and password.

After successful start up of oracle, start form designer and connect it with the required account.

System Working

First of all, load the file named Mmain.Fmb and run this file. This file acts as a backbone in the underlying system, because it guides user to the forms or reports, which are required for the current transaction.

In the developed system, I used pull down menu display style. When you will execute menu module a screen will be appear. This screen will contain six horizontal options

appearing on the upper section. These are the titles for the individual menus. These titles are:

1) Data Entry
2) Master Detail
3) Reports
4) Exit

You can click one of the above options with the help of mouse or hot keys defined for them. These titles will not execute any command instead they will display a vertical list to of individual menus. These individual menus have some menu items.

When you will click on the **first title of the main menu** the forms will be displayed.

When you will select one of the above options it will execute a command against the specified action and a form will be appear. Now you can perform actions of your choice on the form. Functionality of each form is already explained.

Now if you click on the **second option** of the main menu which are Master Detail forms. You can select one of the options to do the job of your choice in the particular form. Functionality of each form has already been explained.

Similarly when you select **third option** of the main menu. A vertical bar having ten items of reports will be appearing.

You can select one of the options to do the job of your choice in the particular report. Functionality of each report has already been explained.

Similarly when you select **fourth option** of the main menu. User will be quite from the program.

You can select one of the options to do the job of your choice in the particular report. Functionality of each report has already been explained.

Record Operations

Usually four kinds of operations are applied onto the record. These four operations are:

- Insertion
- Retrieval
- Modification

- Deletion

8.3.1 Insertion Operation

In order to insert a record following steps are to be followed.

From in which insertion is to take place must be opened in front of you.

Form will display the record, which was stored in the previous transaction. Clear the form by pressing "New Form" push button. Now the system is ready to accept inputs. Enter data and press "Save" to store the record into the database.

- Before committing the transaction, system will check for the required fields and prompt the user, in case of invalid or missing entries.

8.3.2 Retrieve Operation

Following the steps as described below can perform Retrieve operation.

- The form from which you want to retrieve records should be displayed.
- Press buttons whose ToolTip displays the text "enter-query".
- Enter appropriate values in the displayed editing fields, which are to be used.
- In performing a particular search. There can be single field or more than one filed.
- Press buttons whose ToolTip displays the "execute-query".
- System will retrieve the particular record. If you wish to display the record, that was stored before or after that particular record, keep on pressing "Next-Record" or "Previous-Record" buttons.

8.3.3 Modify Operation

To modify the record following steps should be performed.

- Form, the record which is to be modified should be retrieved, by following the procedure explained in the retrieval operation.
- Next, following procedure explained in the retrieval operation should retrieve the record, which is to be modified.
- All the fields except some are then opened for modification. Edit fields according to your need and then press "Save" button to store changes to the database.

8.3.4 Delete Operation

There are two types of deletions provided in the proposed system, which delete records.

For permanent deletion of a record, you need to perform the following steps.

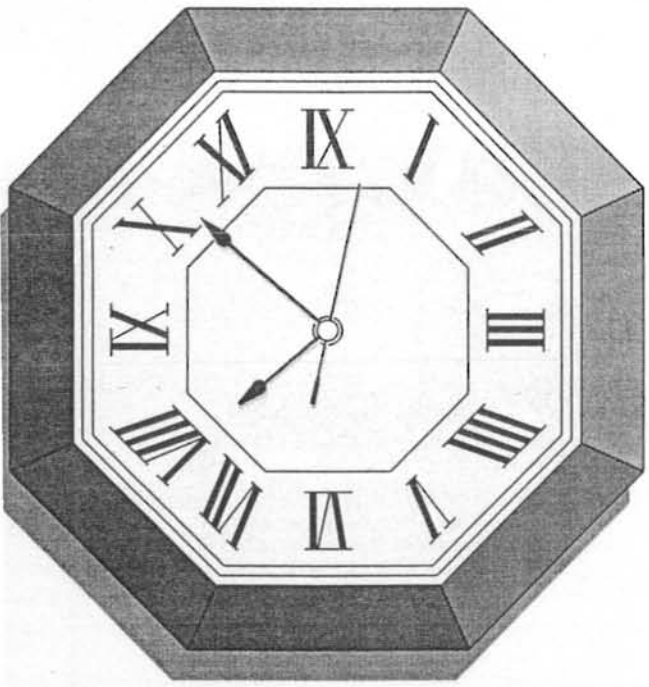
- Form in which deletion is to take place must be opened in front to you.
- Retrieve the record you want to delete, by following the steps explained previously.
- Press "Delete_Record" button, system will prompt an alert, which ask to be sure for deleting records from the **works space.**
- Retrieve the record and press "Clear-Record" button this will only delete the record from a set of retrieved records but it will remain stored into the database.

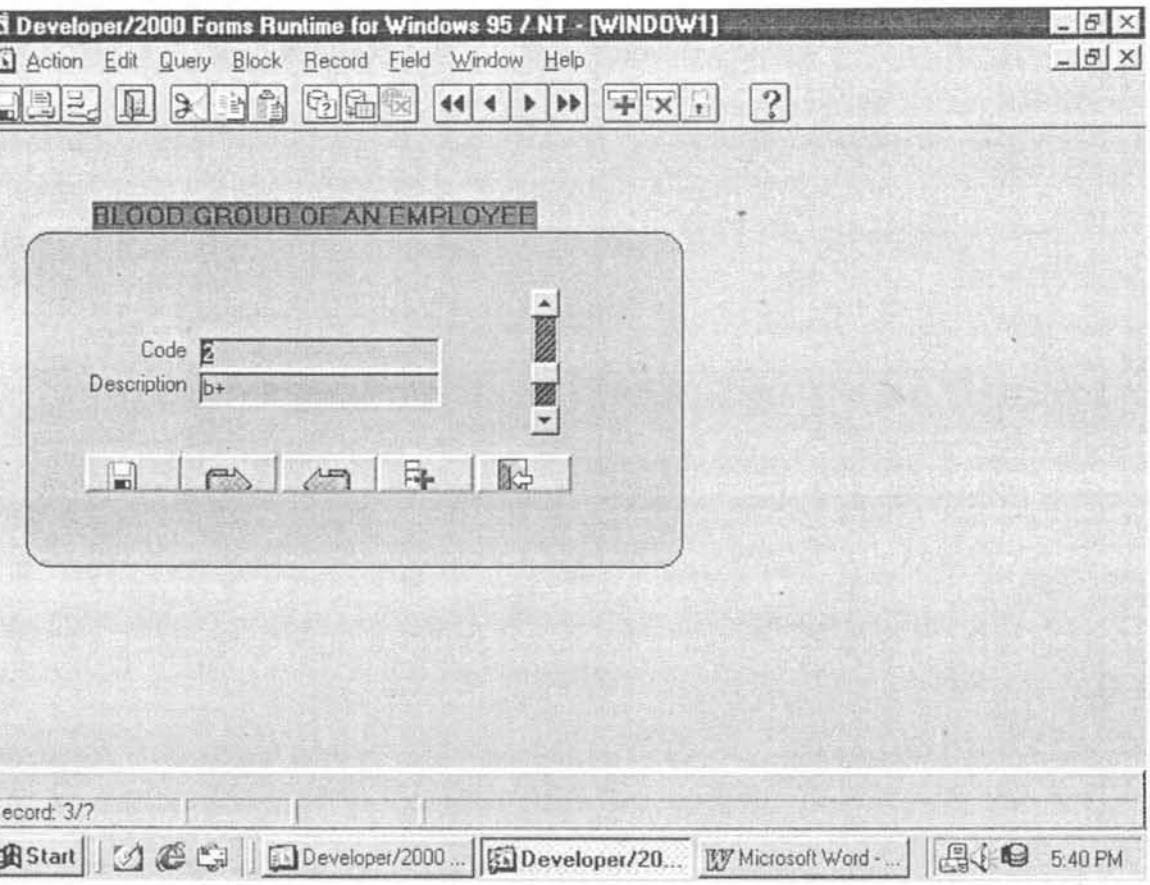
Alerts And Message

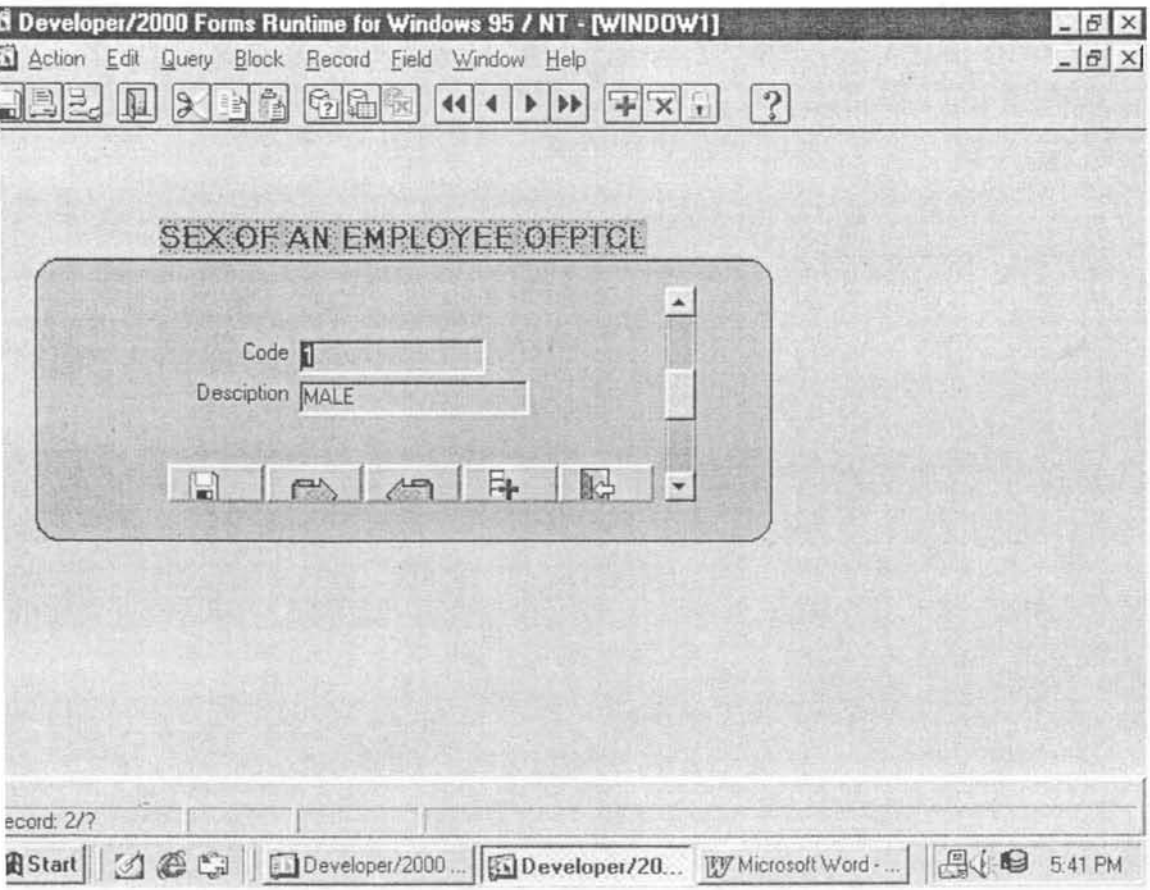
Error message and warning are "Bad News" delivered to user of interactive system when something has gone wrong. Most of the common known errors made by the user are trapped and user is notified by the use of alerts or messages. Messages are displayed at the last line of the form named status line status line is used to display the current actions being performed by the system. it also helps the user while entering the data by displaying appropriate help messages.

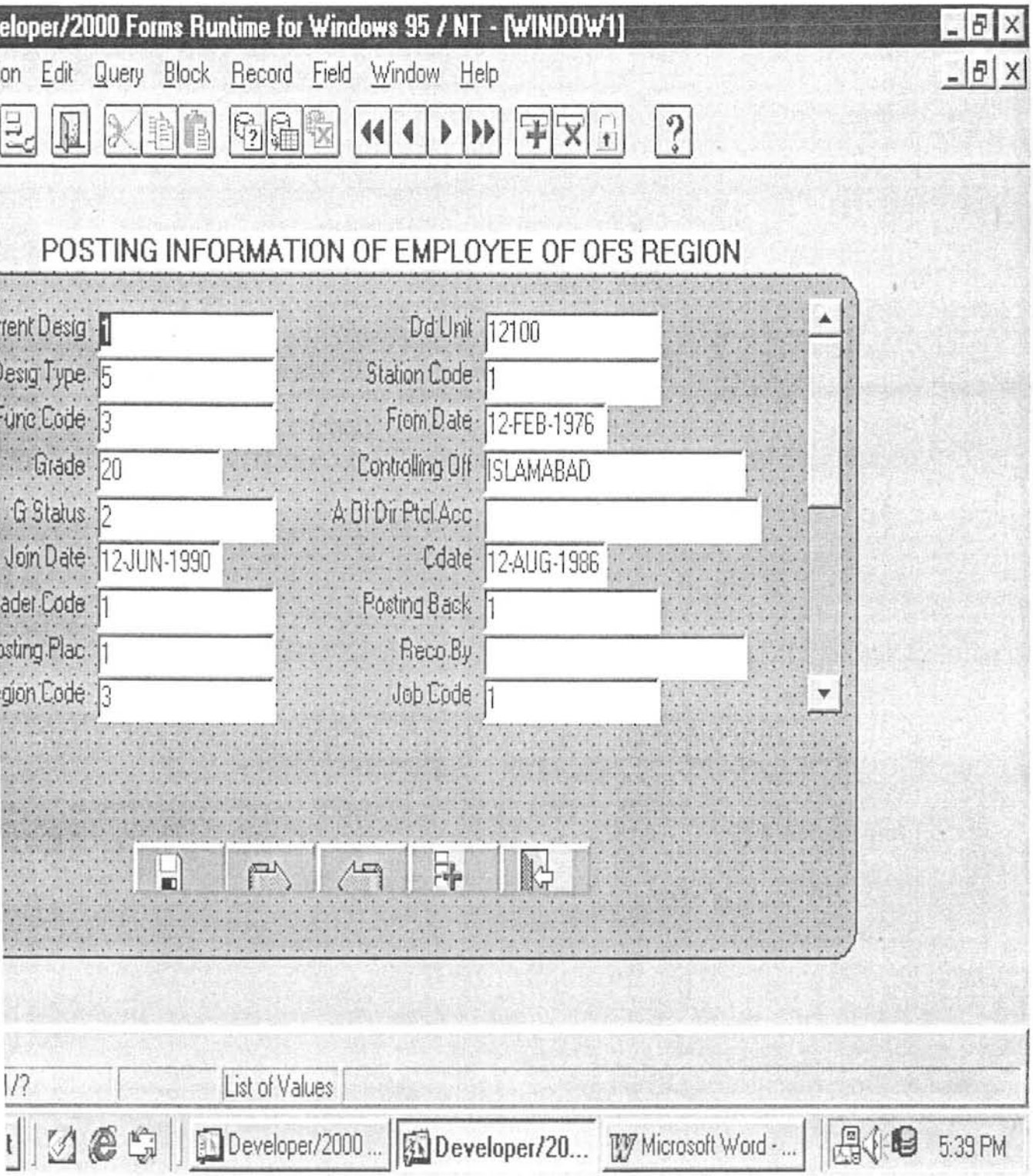
APPENDIX - A

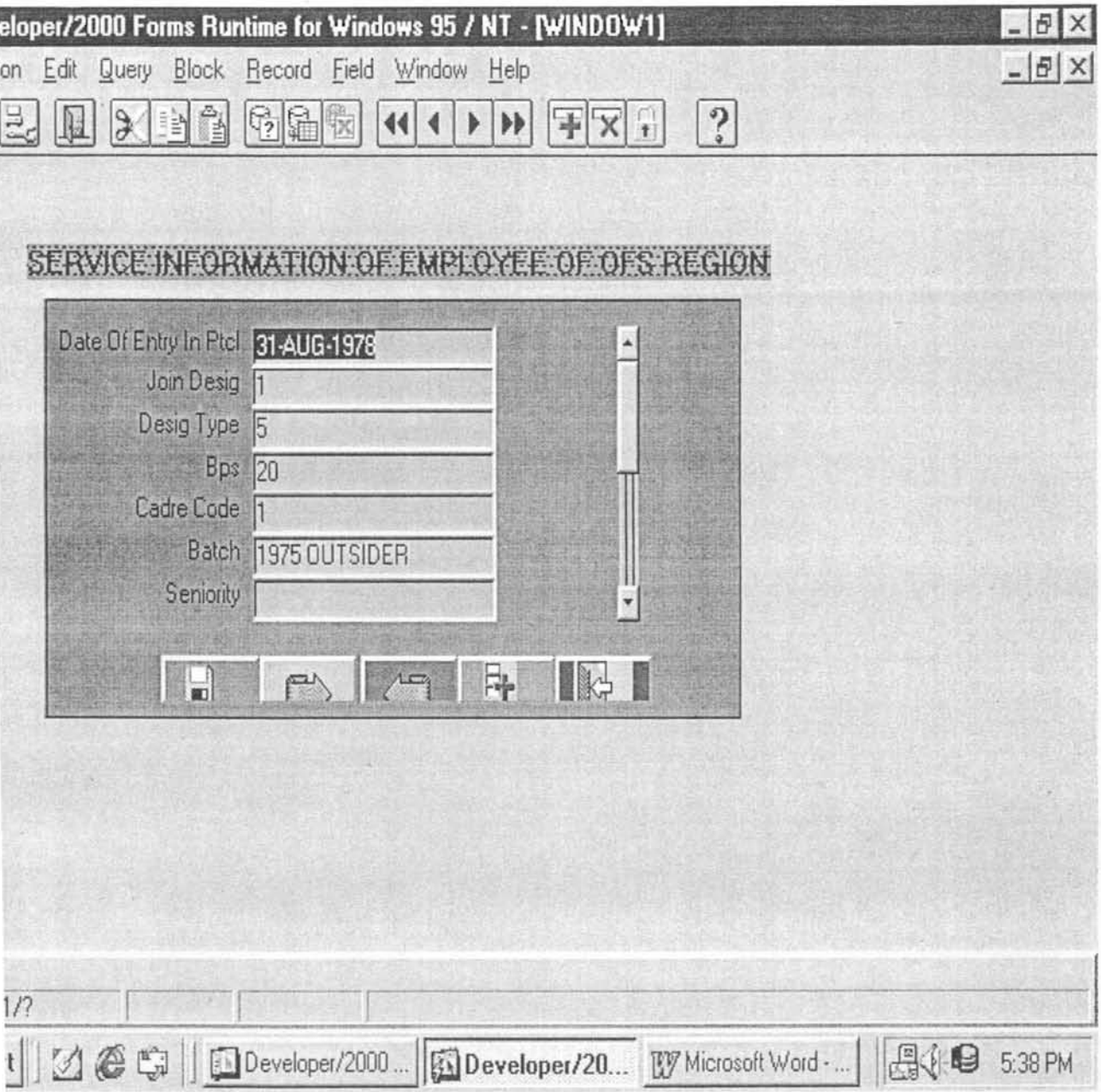
INPUT FORMS

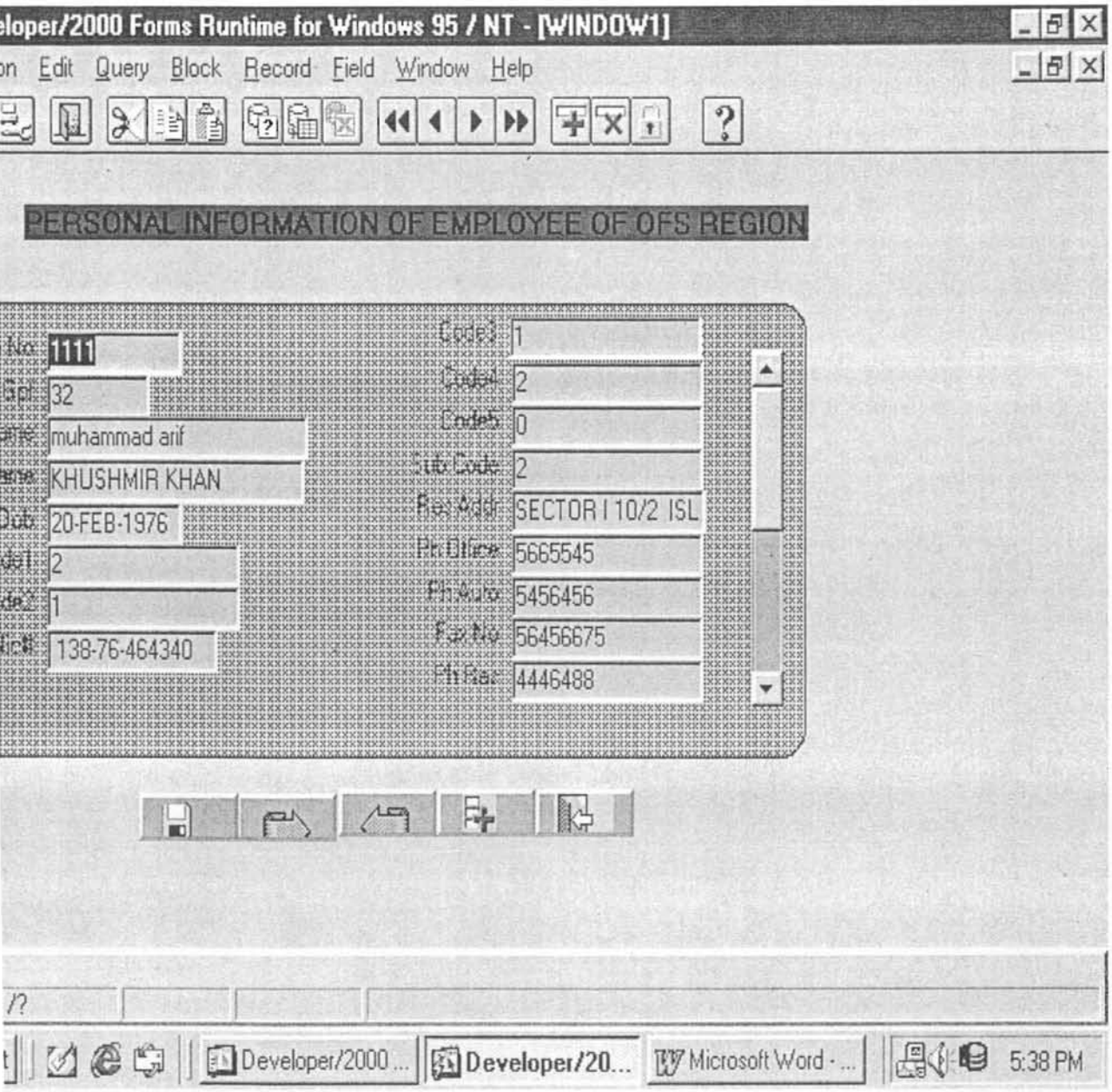


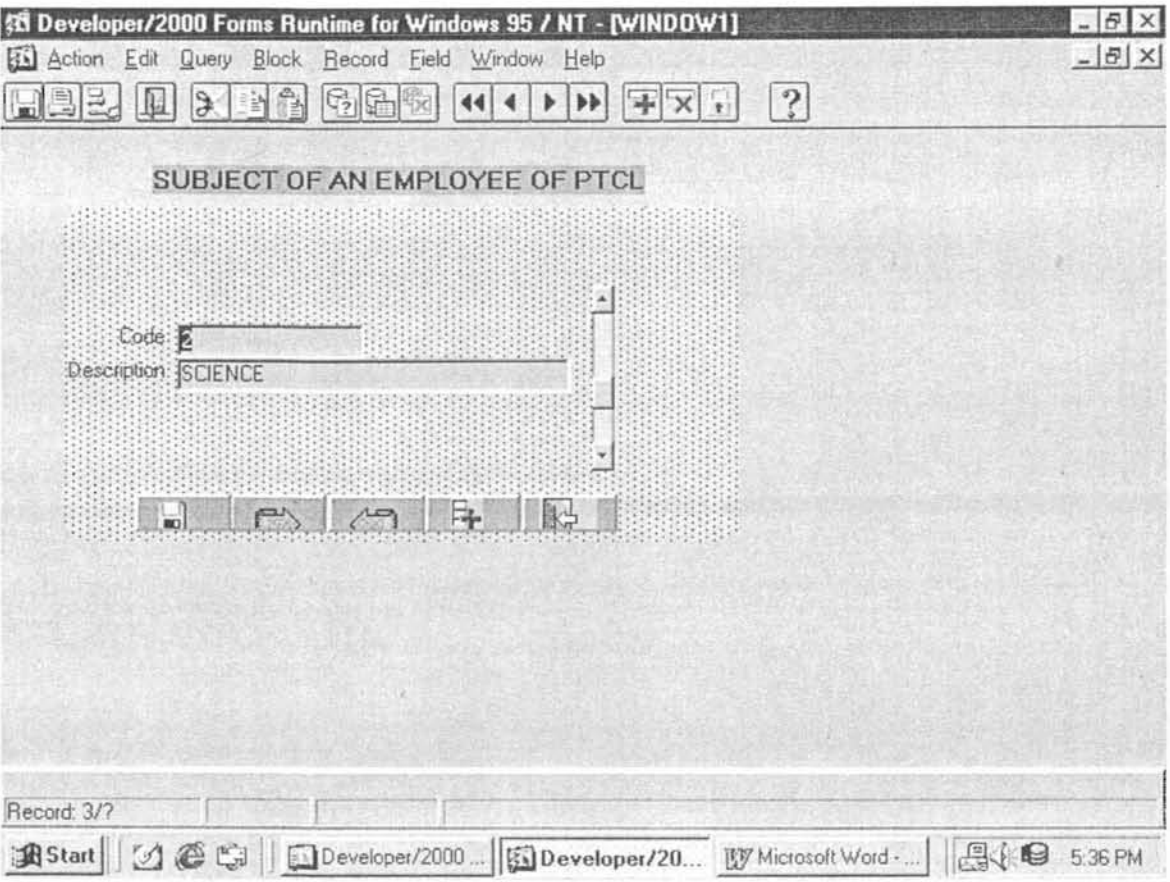

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
BLOOD GROUP OF AN EMPLOYEE
Code 2
Description b+
ecord: 3/?
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:40 PM

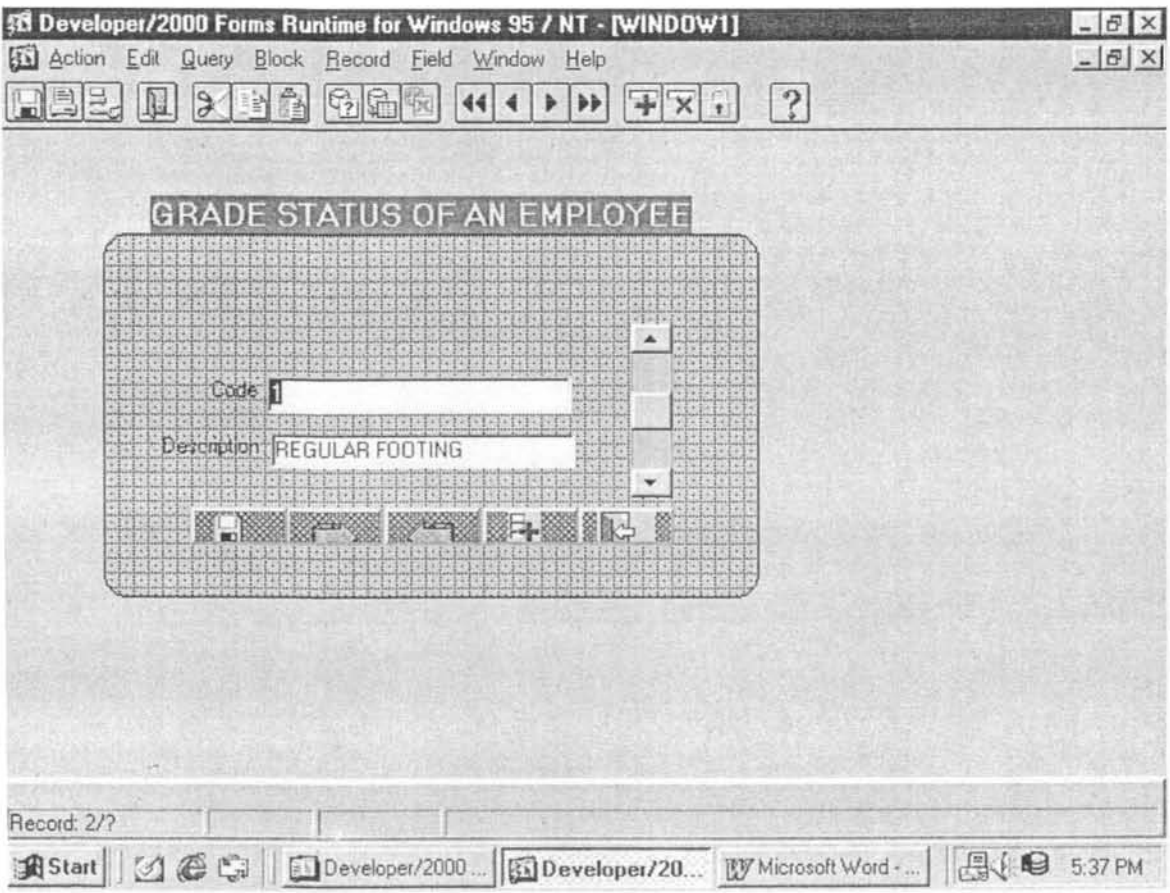

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
SEX OF AN EMPLOYEE OFPTCL
Code 1
Desciption MALE
ecord: 2/?
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:41 PM

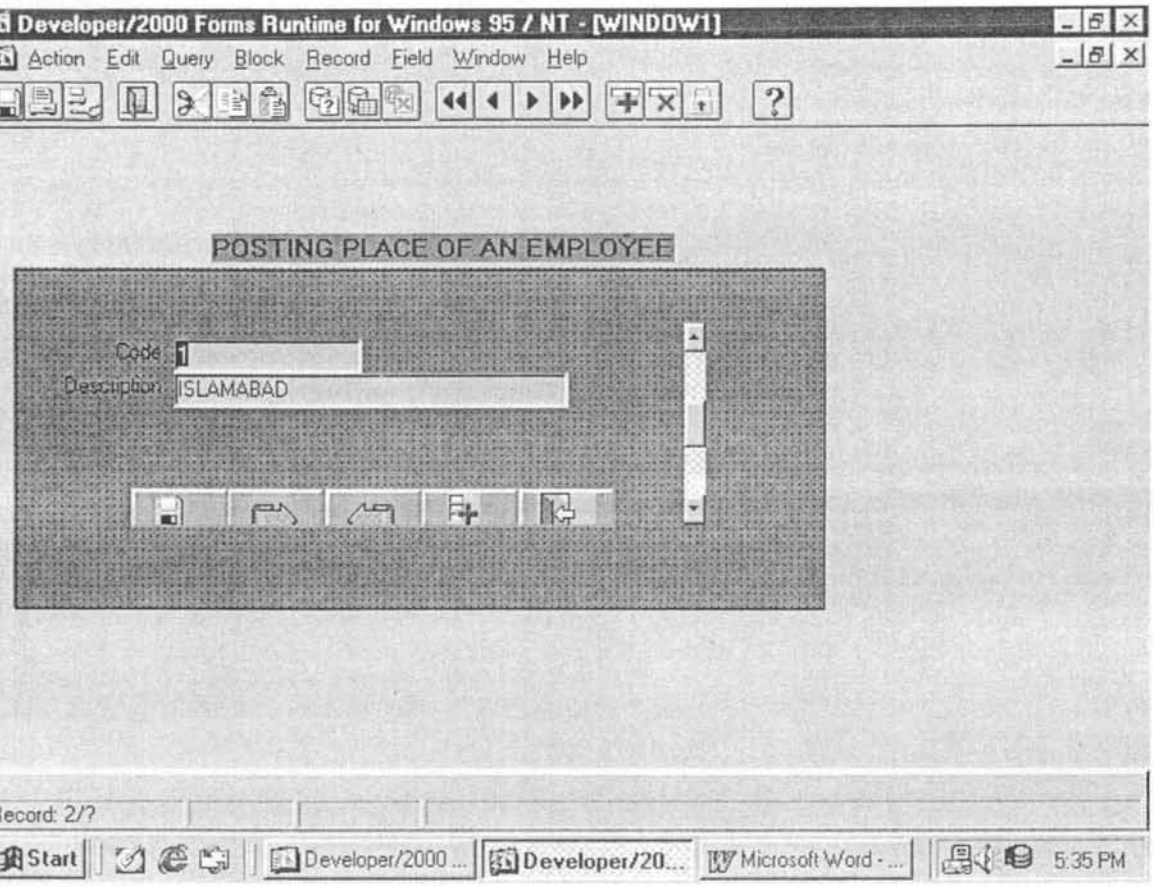

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
on Edit Query Block Record Field Window Help
POSTING INFORMATION OF EMPLOYEE OF OFS REGION
rent Desig 1
Desig Type 5
Func Code 3
Grade 20
G Status 2
Join Date 12-JUN-1990
ader Code 1
sting Plac 1
gion Code 3
Dd Unit 12100
Station Code 1
From Date 12-FEB-1976
Controlling Off ISLAMABAD
A Of Dir Ptcl Acc
Cdate 12-AUG-1986
Posting Back 1
Reco By
Job Code 1
List of Values
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:39 PM

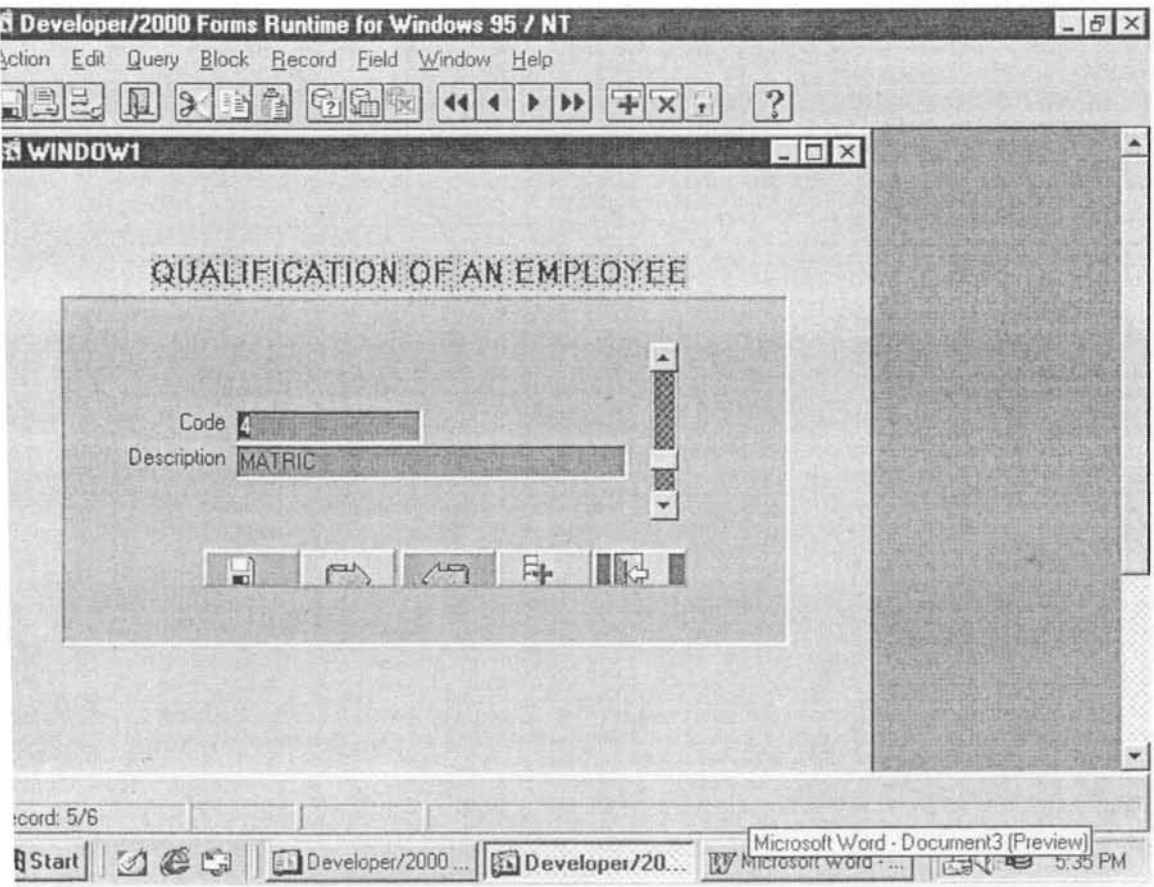

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
on Edit Query Block Record Field Window Help
SERVICE INFORMATION OF EMPLOYEE OF OFS REGION
Date Of Entry In Ptcl 31-AUG-1978
Join Desig 1
Desig Type 5
Bps 20
Cadre Code 1
Batch 1975 OUTSIDER
Seniority
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:38 PM

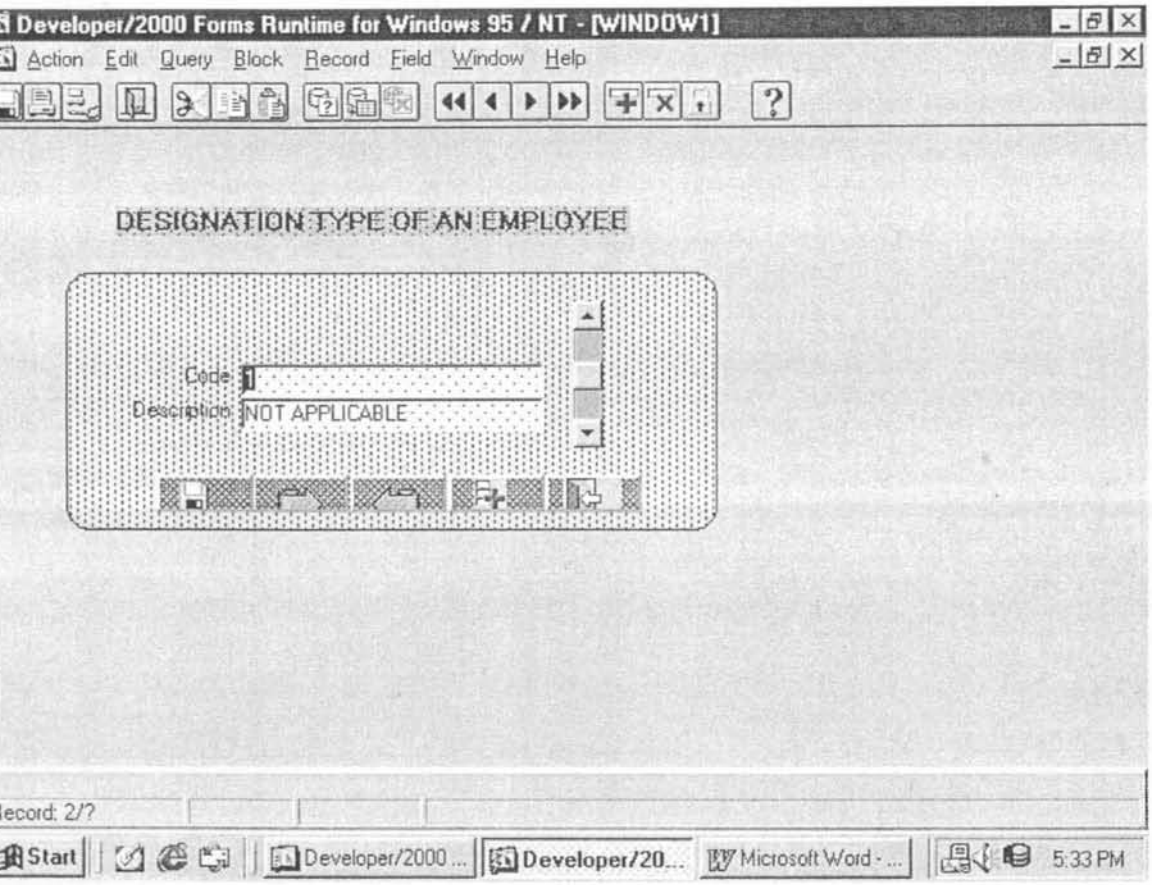

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
on Edit Query Block Record Field Window Help
PERSONAL INFORMATION OF EMPLOYEE OF OFS REGION
1111
32
muhammad arif
KHUSHMIR KHAN
20-FEB-1976
2
1
138-76-464340
1
2
0
2
SECTOR I 10/2 ISL
5665545
5456456
56456675
4446488
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:38 PM

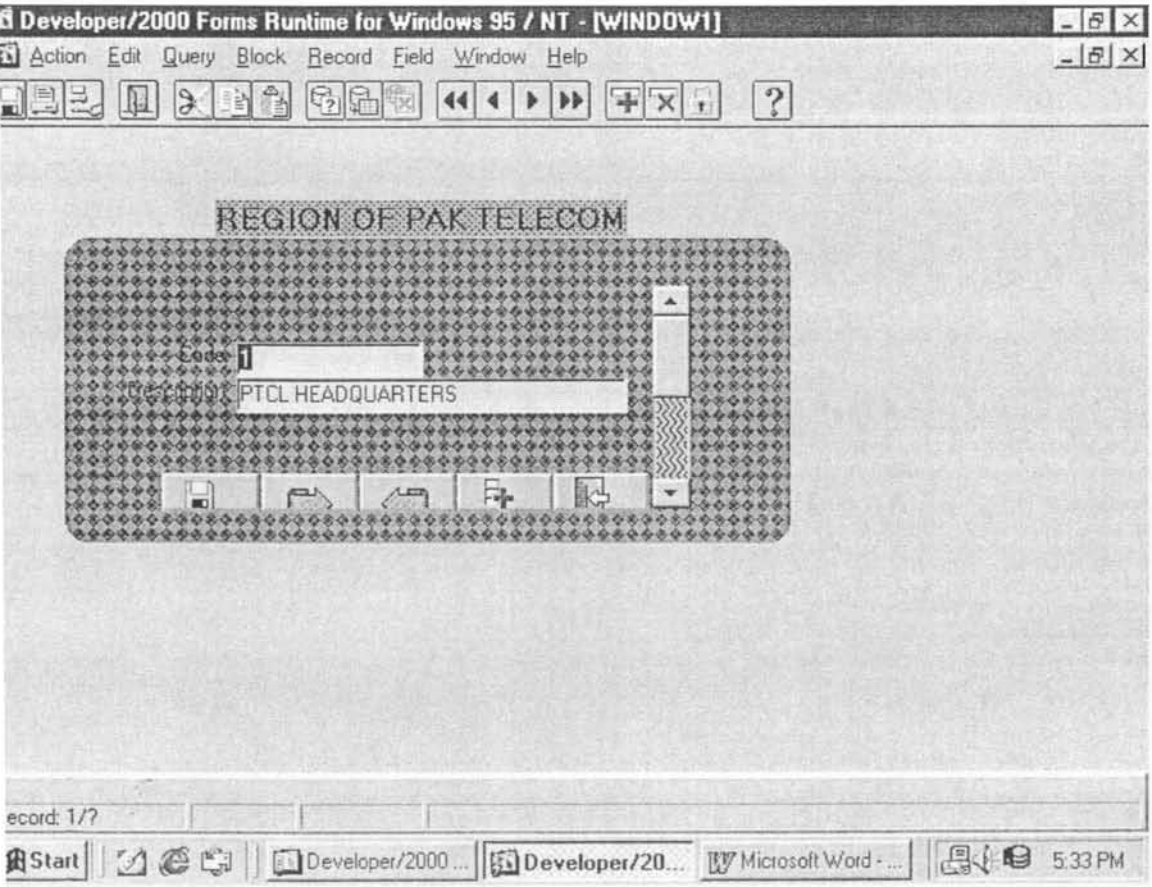

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
SUBJECT OF AN EMPLOYEE OF PTCL
Code: 2
Description: SCIENCE
Record: 3/?
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:36 PM

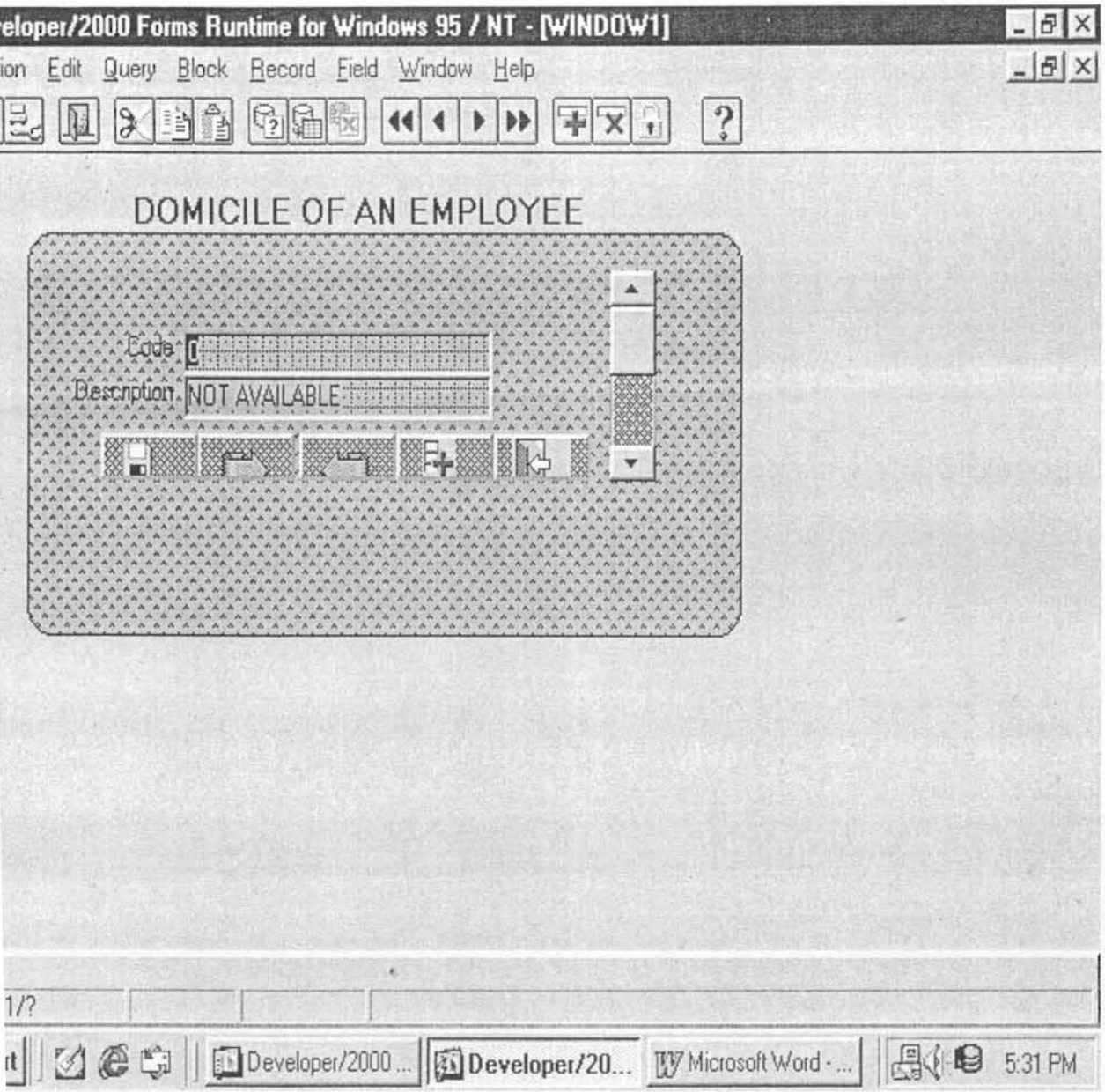

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
GRADE STATUS OF AN EMPLOYEE
Code: 1
Description: REGULAR FOOTING
Record: 2/?
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:37 PM


Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
POSTING PLACE OF AN EMPLOYEE
Code 1
Description ISLAMABAD
Record: 2/?
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:35 PM


Developer/2000 Forms Runtime for Windows 95 / NT
Action Edit Query Block Record Field Window Help
WINDOW1
QUALIFICATION OF AN EMPLOYEE
Code 4
Description MATRIC
Record: 5/6
Start
Developer/2000 ...
Developer/20...
Microsoft Word - Document3 (Preview)
5:35 PM

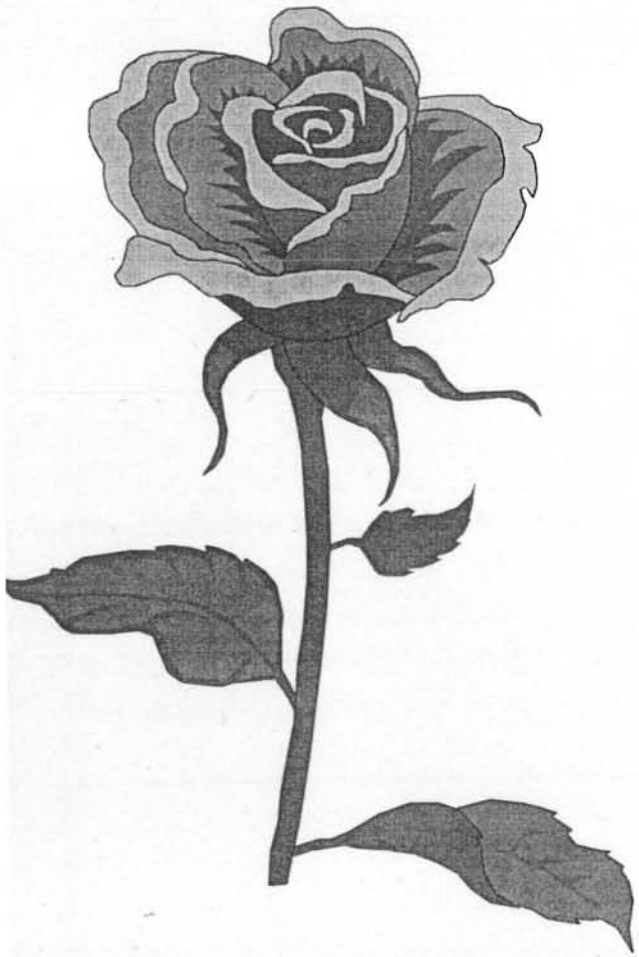

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
DESIGNATION TYPE OF AN EMPLOYEE
Code
Description
NOT APPLICABLE
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:33 PM

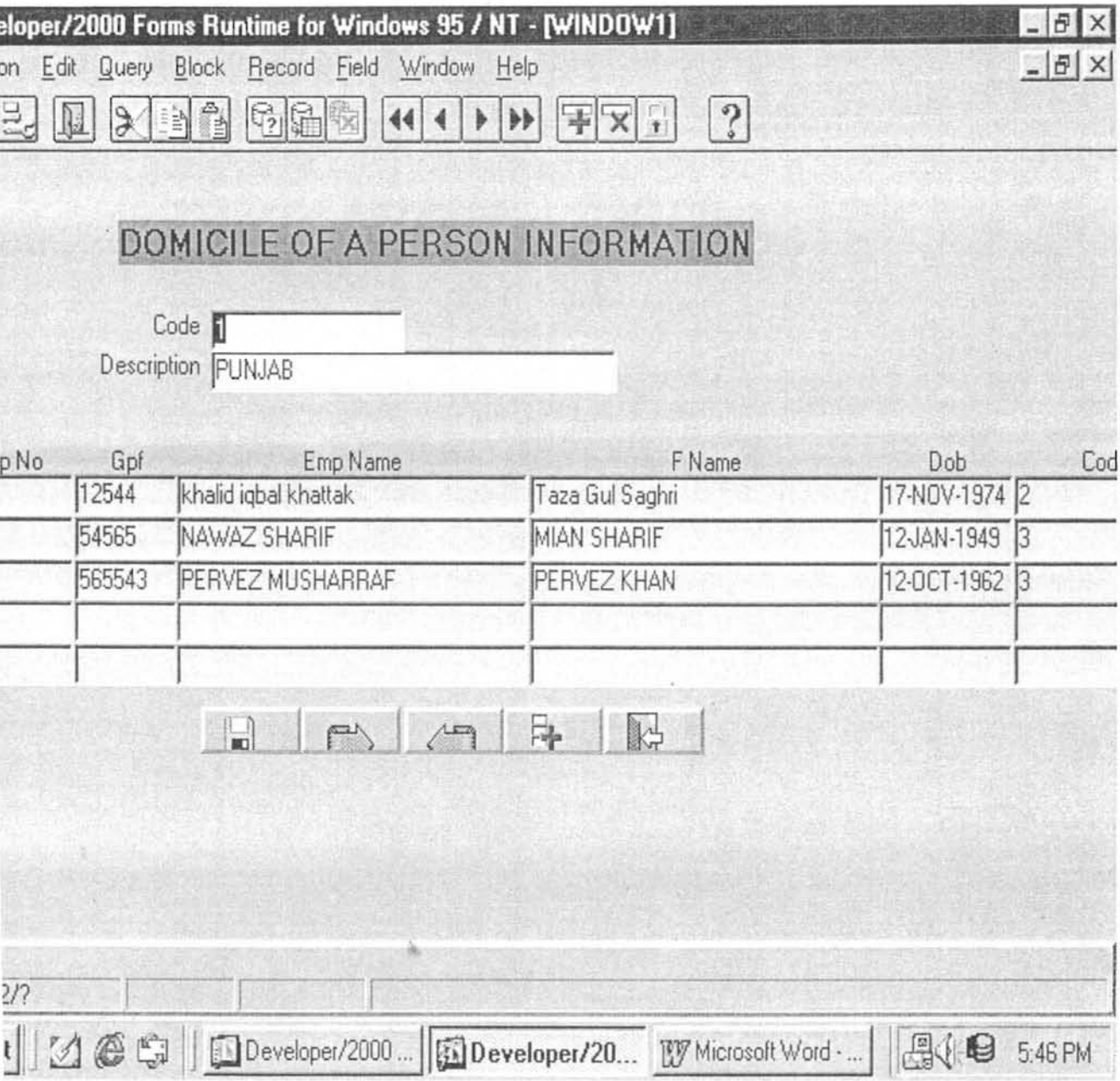

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
REGION OF PAK TELECOM
Code
Description
PTCL HEADQUARTERS
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:33 PM

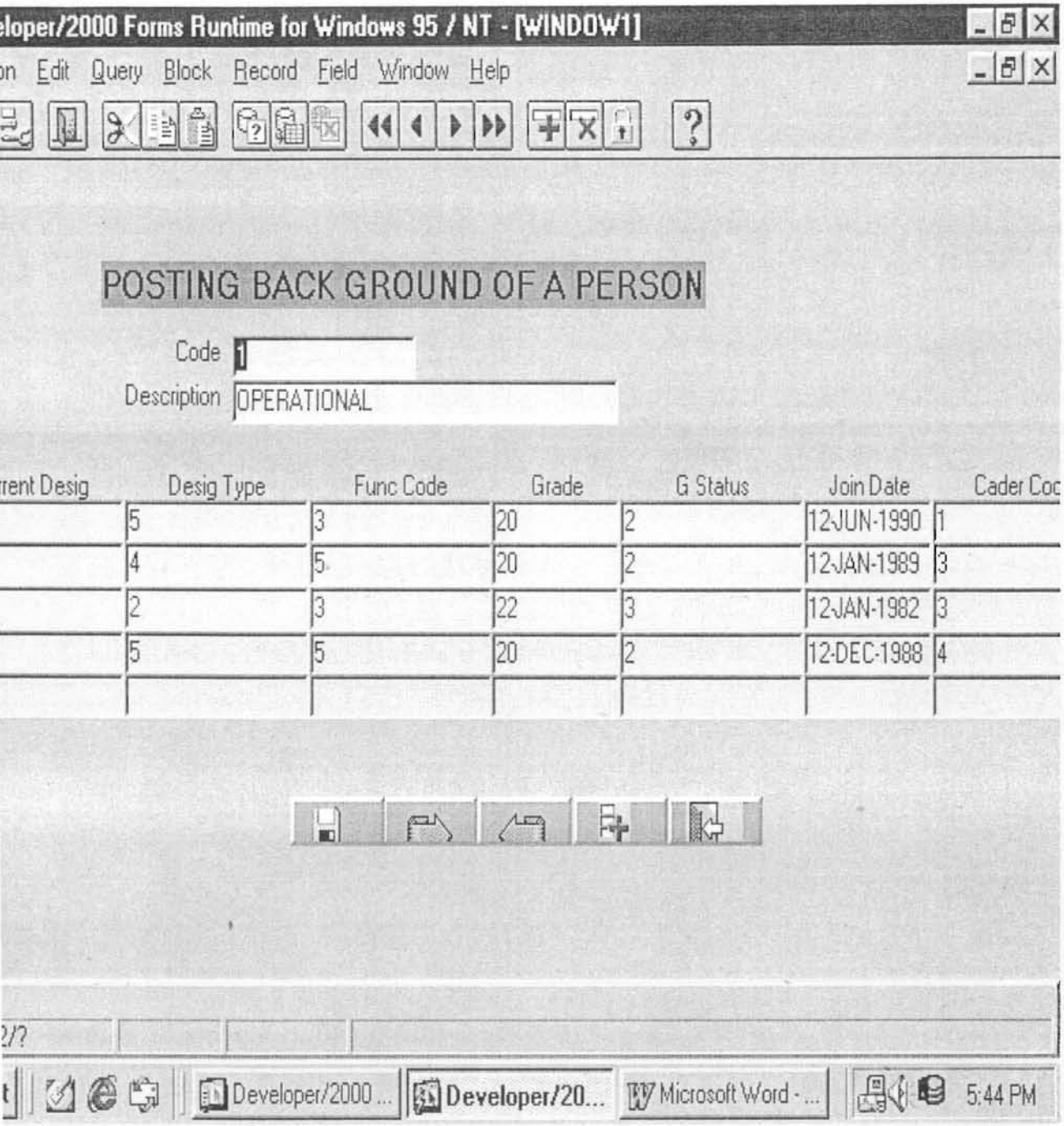

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
ion Edit Query Block Record Field Window Help
DOMICILE OF AN EMPLOYEE
Code
Description
NOT AVAILABLE
1/?
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:31 PM

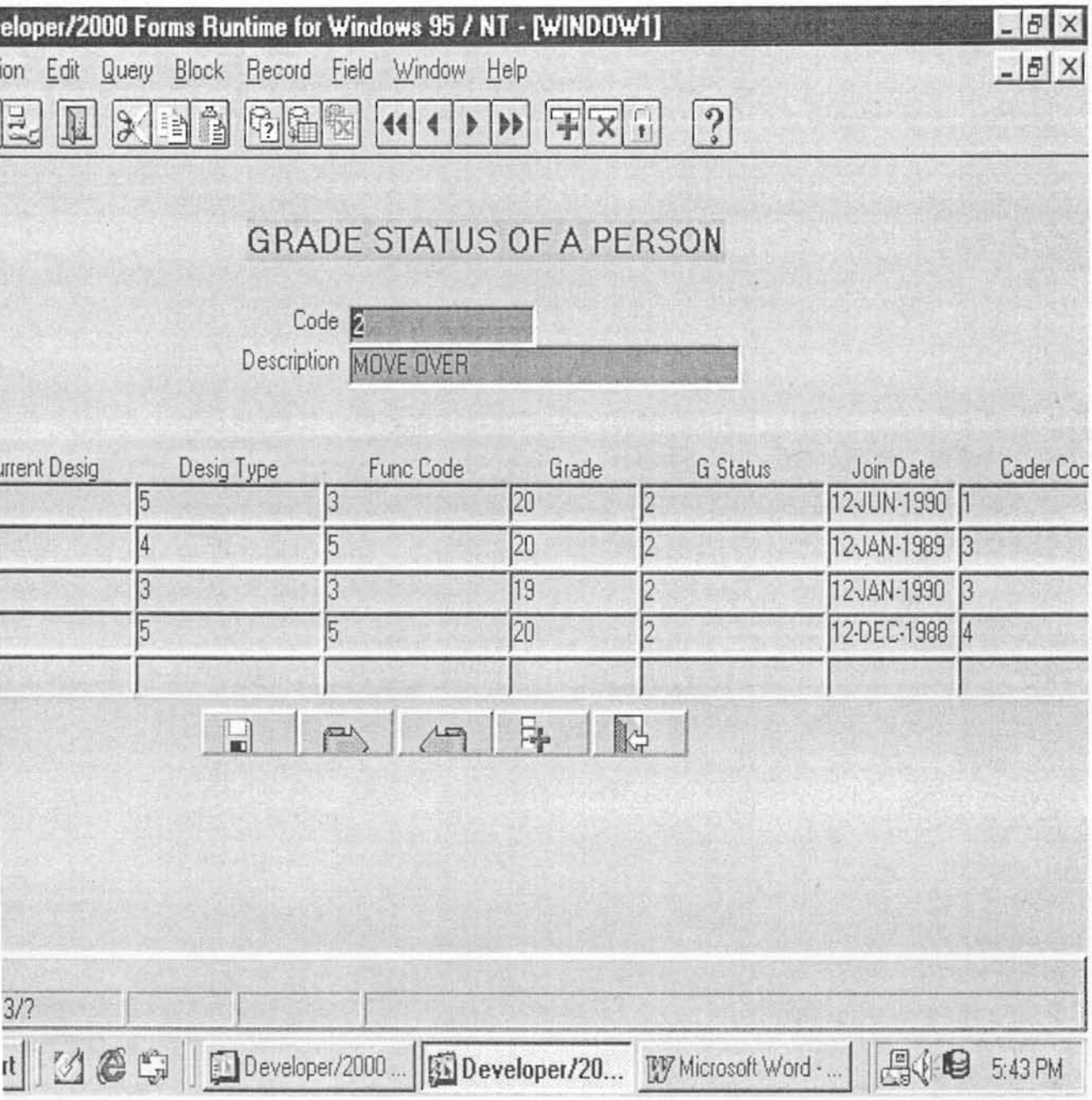
APPENDIX - B

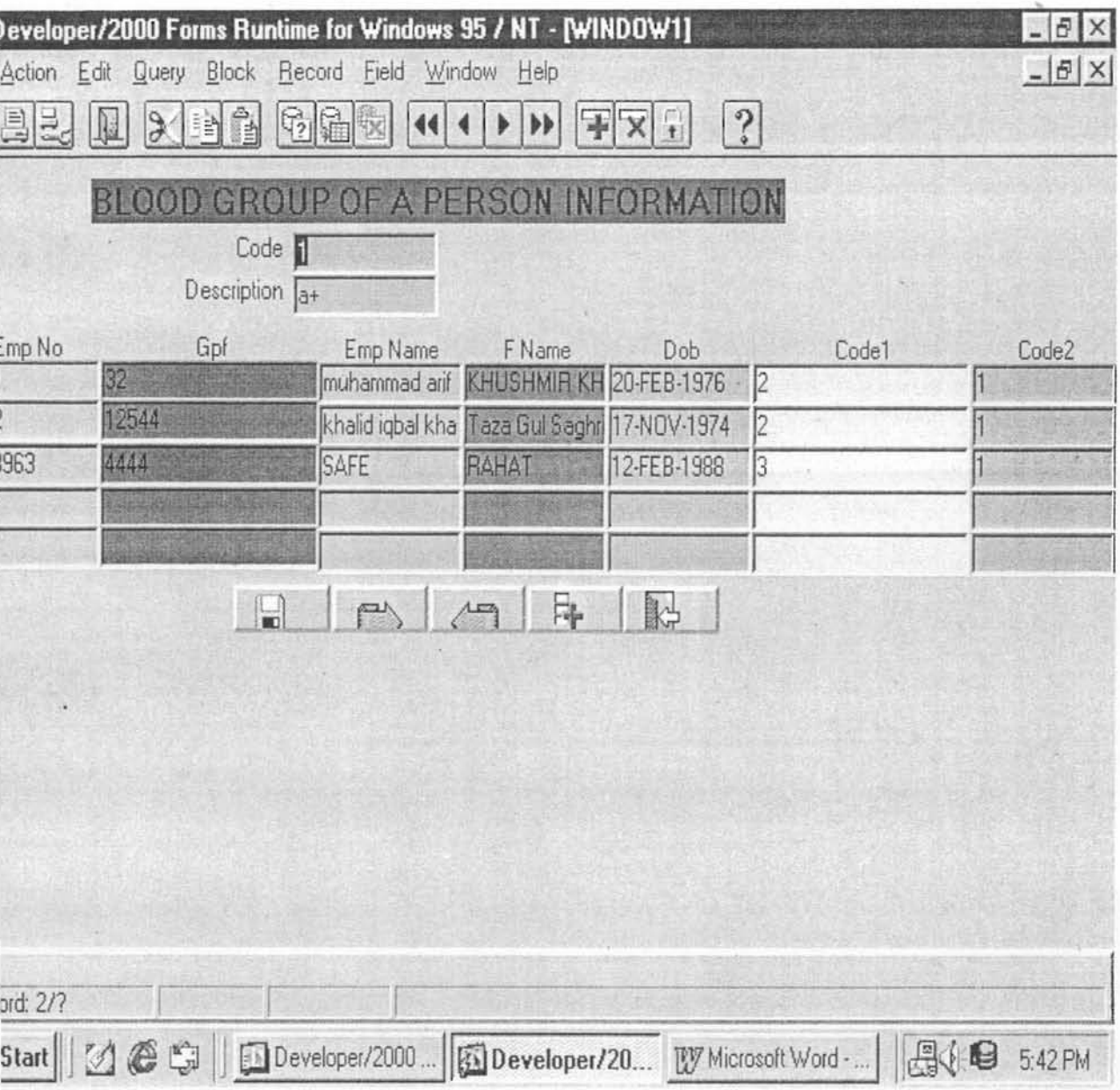
MASTER DETAIL FORMS




eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
on Edit Query Block Record Field Window Help
DOMICILE OF A PERSON INFORMATION
Code 1
Description PUNJAB
p No | Gpf | Emp Name | F Name | Dob | Cod
12544 | khalid iqbal khattak | Taza Gul Saghri | 17-NOV-1974 | 2
54565 | NAWAZ SHARIF | MIAN SHARIF | 12-JAN-1949 | 3
565543 | PERVEZ MUSHARRAF | PERVEZ KHAN | 12-OCT-1962 | 3
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:46 PM

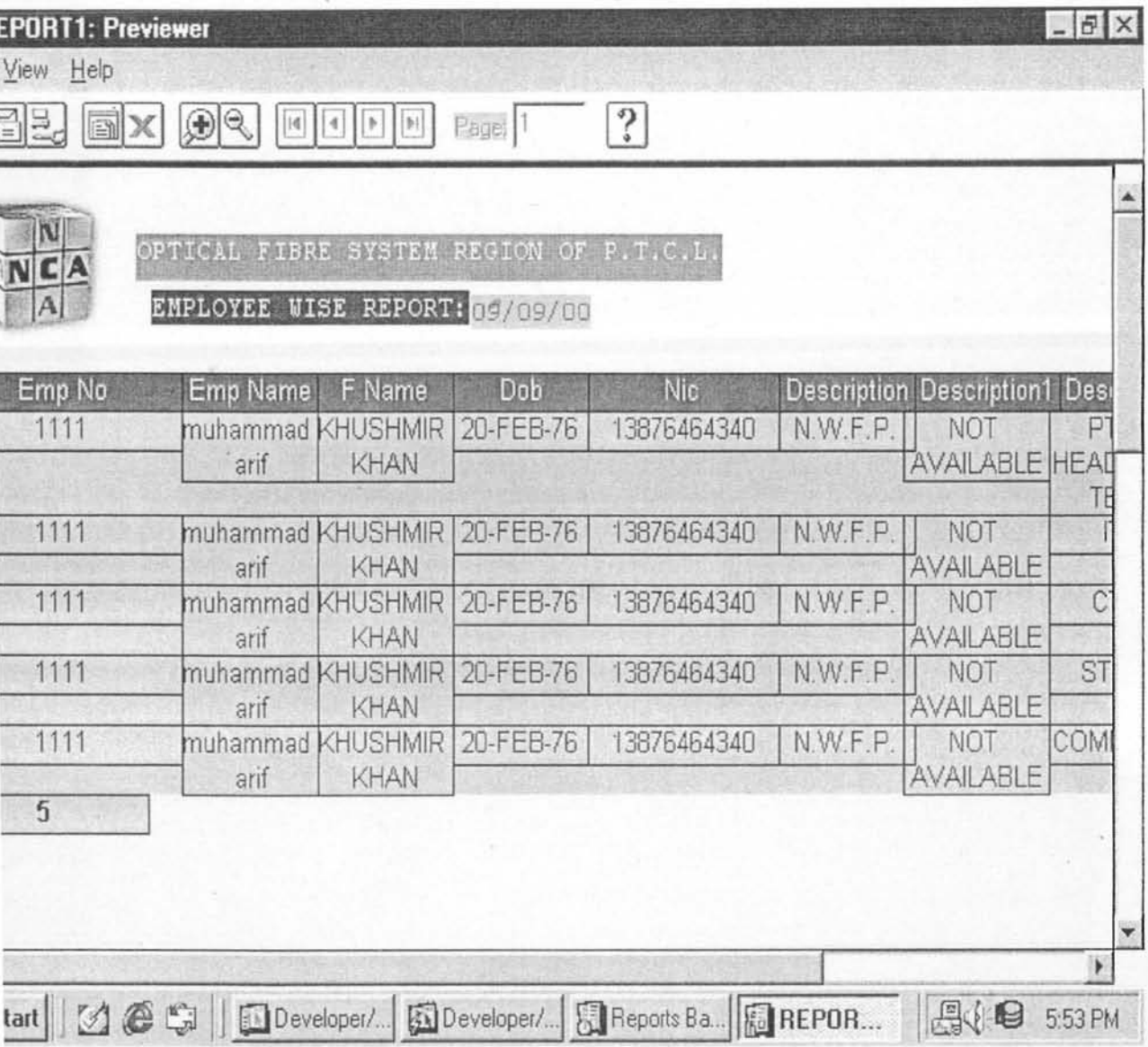

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
on Edit Query Block Record Field Window Help
POSTING BACK GROUND OF A PERSON
Code 1
Description OPERATIONAL
rrent Desig | Desig Type | Func Code | Grade | G Status | Join Date | Cader Coc
5 | 3 | 20 | 2 | 12-JUN-1990 | 1
4 | 5 | 20 | 2 | 12-JAN-1989 | 3
2 | 3 | 22 | 3 | 12-JAN-1982 | 3
5 | 5 | 20 | 2 | 12-DEC-1988 | 4
2/?
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:44 PM

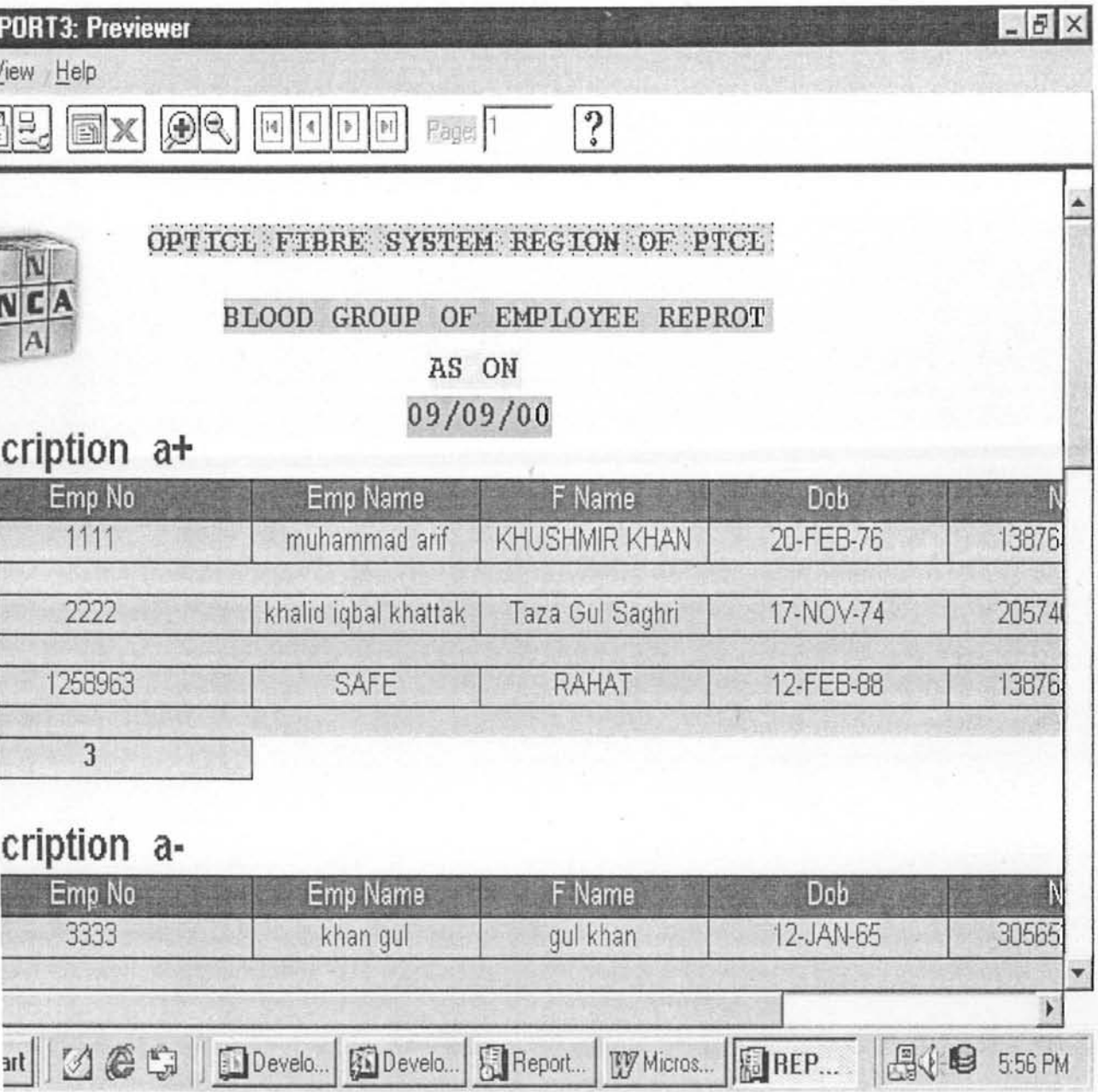

eloper/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
ion Edit Query Block Record Field Window Help
GRADE STATUS OF A PERSON
Code 2
Description MOVE OVER
urrent Desig | Desig Type | Func Code | Grade | G Status | Join Date | Cader Coc
5 | 3 | 20 | 2 | 12-JUN-1990 | 1
4 | 5 | 20 | 2 | 12-JAN-1989 | 3
3 | 3 | 19 | 2 | 12-JAN-1990 | 3
5 | 5 | 20 | 2 | 12-DEC-1988 | 4
3/?
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:43 PM

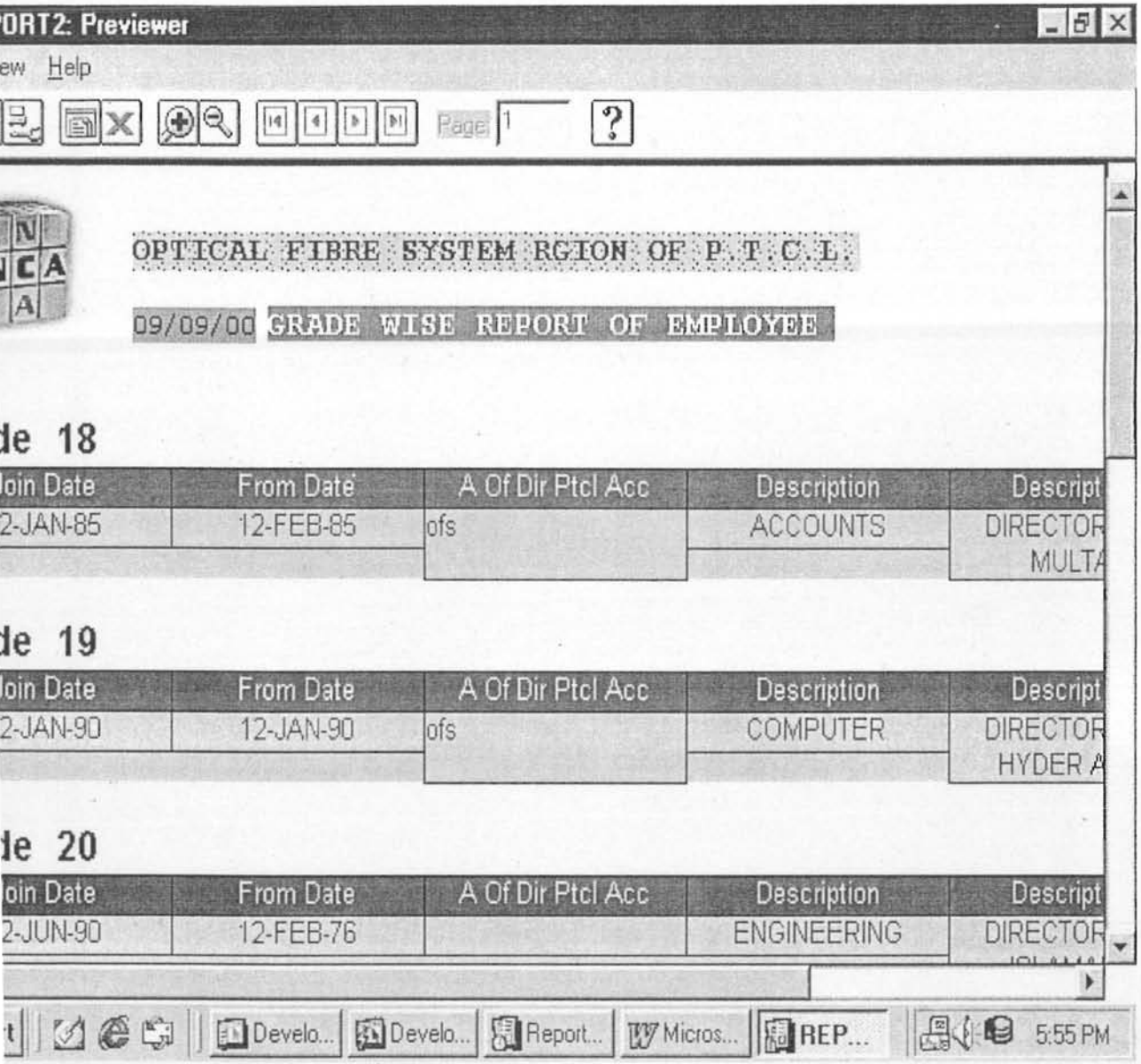

Developer/2000 Forms Runtime for Windows 95 / NT - [WINDOW1]
Action Edit Query Block Record Field Window Help
BLOOD GROUP OF A PERSON INFORMATION
Code 1
Description a+
Emp No | Gpf | Emp Name | F Name | Dob | Code1 | Code2
32 | muhammad arif | KHUSHMIR KH | 20-FEB-1976 | 2 | 1
12544 | khalid iqbal kha | Taza Gul Saghr | 17-NOV-1974 | 2 | 1
4444 | SAFE | RAHAT | 12-FEB-1988 | 3 | 1
Start
Developer/2000 ...
Developer/20...
Microsoft Word - ...
5:42 PM

APPENDIX - C

REPORTS


EPORT1: Previewer
View Help
Page: 1
OPTICAL FIBRE SYSTEM REGION OF P.T.C.L.
EMPLOYEE WISE REPORT: 09/09/00
Emp No | Emp Name | F Name | Dob | Nic | Description | Description1 | Des
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876464340 | N.W.F.P. | NOT AVAILABLE | PT HEAD TE
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876464340 | N.W.F.P. | NOT AVAILABLE | I
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876464340 | N.W.F.P. | NOT AVAILABLE | C
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876464340 | N.W.F.P. | NOT AVAILABLE | ST
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876464340 | N.W.F.P. | NOT AVAILABLE | COM
5
tart
Developer/...
Developer/...
Reports Ba...
REPOR...
5:53 PM


PORT3: Previewer
View Help
Page 1
OPTICL FIBRE SYSTEM REGION OF PTCL
BLOOD GROUP OF EMPLOYEE REPROT
AS ON
09/09/00
cription a+
Emp No | Emp Name | F Name | Dob | N
1111 | muhammad arif | KHUSHMIR KHAN | 20-FEB-76 | 13876
2222 | khalid iqbal khattak | Taza Gul Saghri | 17-NOV-74 | 20574
1258963 | SAFE | RAHAT | 12-FEB-88 | 13876
3
cription a-
Emp No | Emp Name | F Name | Dob | N
3333 | khan gul | gul khan | 12-JAN-65 | 30565
Develo...
Develo...
Report...
Micros...
REP...
5:56 PM


ORT2: Previewer
ew Help
Page 1
OPTICAL FIBRE SYSTEM RGION OF P.T.C.L.
09/09/00 GRADE WISE REPORT OF EMPLOYEE
de 18
Join Date | From Date | A Of Dir Ptcl Acc | Description | Descript
2-JAN-85 | 12-FEB-85 | ofs | ACCOUNTS | DIRECTOR MULTA
de 19
Join Date | From Date | A Of Dir Ptcl Acc | Description | Descript
2-JAN-90 | 12-JAN-90 | ofs | COMPUTER | DIRECTOR HYDER A
de 20
oin Date | From Date | A Of Dir Ptcl Acc | Description | Descript
2-JUN-90 | 12-FEB-76 | | ENGINEERING | DIRECTOR
Develo... Develo... Report... Micros... REP... 5:55 PM

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