

P-3224



GUI FOR ORCLE 9i

PROJECT REPORT

Submitted By

K.GOKUL

Register No.: 0720300007

in partial fulfilment for the award of the degree
Of

MASTER OF COMPUTER APPLICATIONS

in

COMPUTER APPLICATIONS

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

May 2010

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

COIMBATORE – 641 006.

Department of Computer Applications

PROJECT WORK

MAY 2010

This is to certify that the project entitled

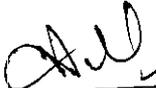
GUI FOR ORACLE 9i

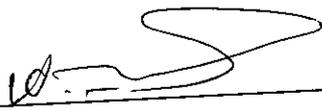
is the bonafide record of project work done by

K.GOKUL

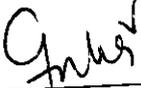
Register No: 0720300007

of MCA (Computer Applications) during the year 2009-2010.


06/05/10
Project Guide


Head of the Department

Submitted for the Project Viva-Voce examination held on 17.5.2010


17/5/10
Internal Examiner


17/05/2010
External Examiner

DECLARATION

I affirm that the project work titled "GUI FOR ORACLE 9i" being submitted in partial fulfilment for the award of **MASTER OF COMPUTER APPLICATIONS** is the original work carried out by me. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.



(Signature of the Candidate)

K.GOKUL

0720300007

I certify that the declaration made above by the candidate is true

Signature of the Guide,



Mrs.V.JALAJA JAYALAKSHMI

LECTURER

GOLDEN STAR IMPEX

BERGER PAINTS INDIA LIMITED

29.04.2010

PROJECT CERTIFICATE

This is to certify that Mr.K.GOKUL, (Reg No. 0720300007), III MCA student of Kumaraguru College of Technology, Coimbatore has done a project work on "GUI FOR ORACLE 9i" done in our organization from December 2009 to April 2010.

for GOLDEN STAR IMPEX



A. S. VENKATACHALAM.
BCom. DTL. PGDCA. MISEM. MCA

56(2), Raja Street, Ganapathy,
Coimbatore - 641 002.



No. 7, Ramachandra Road, R.S. Puram, Coimbatore - 641 002.
Ph : 0422-2474789, 2476868 Fax : 2474789
Email : goldenstarimpex@gmail.com
TIN No. : 33611862253, CST No. 280513, IAC No. 098
IE Code No. 3206012503



ACKNOWLEDGEMENT

I wish to express sincerest thanks to **Dr.J.Shanmugam**, Director, Kumaraguru College of Technology, **Dr.S.Ramachandran**, Principal, Kumaraguru College of Technology, for providing necessary facilities in carrying out my project work.

I am very glad to express a special word of thanks to **Dr.A.Muthukumar**, Professor and course coordinator, Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for encouraging me to do this work.

I wish to thank my Project coordinator **Mrs.V.Geetha**, Assistant Professor, Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for her sincere advice, thought provoking discussions and immense help throughout the project and encouragement given by her.

I want to acknowledge my Project guide **Mrs.V.JalajaJayalakshmi**, Lecturer, Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for her sincere advice, thought provoking discussions and immense help throughout the project and encouragement given by her.

I wish to thank all my staff members for their timely help and guidance to complete the project successfully.

ABSTRACT

"GUI for Oracle 9i" develops a Graphical User Interface for Oracle. Oracle provides methods for querying and updating data in a database. To execute the queries in oracle, we have to be familiar with all the syntax and procedures. But our project provides a Visual Studio type of environment, which enable the users to execute the queries in user friendly manner.

GUI for Oracle 9i serves to create new tables, update the tables, alter the existing tables and also several operations in the tables like edit, add column, add row, insert record, save, add constraints etc., This also performs built-in function manipulations, execute aggregate functions, nested queries and set operations. It also serves to perform Table Duplication (Copy of a Table) in a user-friendly environment. Thus GUI for Oracle 9i is an enhancement of SQL Editor in a Visual Studio type of environment

Software platform used in our project is Java. JDK is used as a front end and Oracle is used as a back end. JDBC is the connection wizard used in our project. Swing is an extension library to AWT, provides more sophisticated GUI components and thus provides a GUI tool kit for Java.

TABLE OF CONTENTS

| CHAPTERS | PAGE No |
|---|-------------|
| LIST OF FIGURES | viii |
| 1. INTRODUCTION | 1 |
| 1.1 Organization Profile | 1 |
| 1.2 Project Overview | 1 |
| 2. SYSTEM ANALYSIS | 3 |
| 2.1 Existing System | 3 |
| 2.2 Proposed System | 4 |
| 3. SYSTEM ENVIRONMENT | 5 |
| 3.1 Hardware Configuration | 5 |
| 3.2 Software Configuration | 5 |
| 3.3 Software Overview | 5 |
| 3.3.1 Need for Java and Swing | 5 |
| 3.3.2 Why JDBC? | 6 |
| 4. SYSTEM DESIGN | 7 |
| 4.1 Module Description | 7 |
| 4.1.1 Creation and Manipulation of Tables | 7 |
| 4.1.2 Pre-Defined Function Manipulations | 7 |
| 4.1.3 PL/SQL Editor | 8 |
| 4.1.4 Table Duplication | 8 |
| 4.2 Data Flow Diagram | 9 |
| 4.3 Process Logic | 15 |
| 4.4 Types of Report Formation | 15 |
| 5. SYSTEM IMPLEMENTATION | 16 |
| 5.1 Implementation Process | 16 |
| 5.2 System Verification | 16 |
| 5.3 System Validation | 16 |
| 6. TESTING | 18 |
| 6.1 Black Box Testing | 18 |

| | |
|---|-----------|
| 6.2 White Box Testing | 19 |
| 6.3 Unit Testing | 19 |
| 6.4 Integration Testing | 19 |
| 6.5 System Testing | 20 |
| 6.6 Security Testing | 20 |
| 7. CONCLUSION AND FUTURE SCOPE | 21 |
| 7.1 Conclusion | 21 |
| 7.2 Future Scope and Further Enhancements | 21 |
| APPENDICES | 22 |
| Sample Screen | 22 |
| REFERENCES | 33 |
| Reference Books | 34 |
| Websites | 34 |

LIST OF FIGURES

| FIGURE No | TITLE | PAGE No |
|------------------|---|----------------|
| 3.1 | JDBC Architecture | 6 |
| 4.2.1 | Level 0 – DFD | 9 |
| 4.2.2 | Level 1 – DFD | 10 |
| 4.2.3 | Level 2 – DFD Update and Delete | 11 |
| 4.2.4 | Level 2 – DFD Database Object | 12 |
| 4.2.5 | Level 2 – DFD Predefined Function Manipulations | 13 |
| 4.2.6 | Level 2 – DFD PL/SQL Editor | 14 |
| 7 | Appendix – Sample Screen | 22 |

CHAPTER 1

INTRODUCTION

1.1 ORGANIZATION PROFILE

Golden Star Impex is known as one of the most leading dealers, distributors and suppliers of **Berger Paints Products**. So that brings complete customer satisfaction in terms of quality, excellent results and cost effectiveness.

We offer the product range with the commitment of getting superb performance with proven quality ensuring long life to your walls. Our international standard products are used for various applications including over coat wall with Acrylic Distemper, Royal Emulsion, Premium Acrylic Emulsion, and Acrylic Emulsion to give aesthetic look and fine finish to them.

Our quality driven attitude is the main factor behind our unprecedented growth within a short span of time since the inception in this business. With a motto to satisfy individual customer in each possible manner, we distribute and supply only well tested products that exactly match to customers' satisfaction. We regularly update our facilities by incorporating latest changes in the technologies so that keep pace with competitive market.

1.2 PROJECT OVERVIEW

Oracle, being the largest database vendor in the world, has arguably the world's most sophisticated and powerful database. Large companies have realized for years that file systems are unsuited for sophisticated data management, and have instead relied on relational database management systems (RDBMS). Thus oracle replaces the traditional file systems.

Our project "GUI for Oracle 9i" develops a Graphical User Interface for Oracle to execute all SQL commands. It provides an interface to the user to perform operations like,

- DDL
- DML

- PL/SQL
- Database Objects

It develops a GUI to execute all the queries in oracle. The GUI is basically a SQL editor in a modern developer environment and has many useful features to help in the day-to-day work with databases, in a Visual Studio type of environment.

CHAPTER 2

SYSTEM ANALYSIS

System Analysis is the analysis of the role of a proposed system and the identification of the requirements that it should meet. The term is most commonly used in the context of commercial programming, where software developers are often classed as either systems analysts or programmers. The systems analysts are responsible for identifying requirements (i.e. systems analysis) and producing a design. The programmers are then responsible for implementing it.

2.1 EXISTING SYSTEM

The existing system 'Oracle 9i' is not GUI Oriented. It does not provide any user-friendly environment. When the users get to work with Oracle for the first time, the Oracle environment is really vague and make the users struggle to create and execute queries. It is really complex for the users to create queries without a wide knowledge about the Oracle database. Thus the users have to remember all the syntax required to create queries. Also the SQL Editor has some complex in editing the queries that are to be executed. Once the user types the query and if he makes any mistake at the end of the statement, then the user has to repeat the query once again from the beginning. It is really time consuming and the user may feel uncomfortable.

Our project provides a user-friendly environment to work with and to execute queries in Oracle. It does not require the user to remember all the syntax to write queries. Since the user works with GUI forms, the queries are automatically created and the user does not have to worry about the editing of queries once written.

There are a lot of pre-defined functions under Character, Number and Date functions. It is hard for the users to remember the names and syntax of all the functions available. Also the queries will become lengthier when you work with nested queries and aggregate functions with conditions. Our project helps to know about all the built-in functions with their syntax and also about the various conditions that can be applied to the nested queries and aggregate functions.

Oracle does not provide the option to copy a table. So if a table has to be created with the same details of an already existing table but with another name, the user has to create a different table with a new name. This has been made efficient in our project. We have implemented the concept of duplicating the table which will be more helpful for the users.

2.2 PROPOSED SYSTEM

This project provides a user-friendly environment to work with DDL (create, drop and alter functions with tables), DML (insertion, deletion and modification of records) commands and to execute queries in Oracle. It does not require the user to remember all the syntax to write queries. Since the user works with GUI forms, the queries are automatically created and the user does not have to worry about the editing of queries once written.

There are a lot of pre-defined functions under Character, Number and Date functions. It is hard for the users to remember the names and syntax of all the functions available. Also the queries will become lengthier when you work with nested queries and aggregate functions with conditions. Our project helps to know about all the built-in functions with their syntax and also about the various conditions that can be applied to the nested queries and aggregate functions.

CHAPTER 3

SYSTEM ENVIRONMENT

3.1 HARDWARE CONFIGURATION

| | | |
|-----------|---|--------------------|
| Processor | : | Intel Pentium IV |
| Ram | : | 512 MB |
| Hard Disk | : | 40 GB |
| Display | : | SVGA Color Monitor |
| Keyboard | : | 106 Enhanced Keys |
| FDD | : | 1.44MB |

3.2 SOFTWARE CONFIGURATION

| | | |
|-----------|---|-------------------------|
| Platform | : | Windows XP Professional |
| Front End | : | Java |
| Back End | : | Oracle-9i |

Oracle 9i also supports a wide variety of application development platforms and tools that are tightly integrated to the core database. As the largest database vendor in the world, they have the world's most sophisticated and powerful database.

3.3 SOFTWARE OVERVIEW

3.3.1 NEED FOR JAVA AND JAVA SWING

Java, a popular Object-Oriented language, is becoming a good choice for developing and deploying Oracle-based user-friendly applications. Swing is a GUI toolkit for Java. Swing, which is an extension library to the AWT, provides more sophisticated GUI components than the earlier Abstract Window Toolkit. Swing includes Graphical User Interface (GUI) widgets such

as edit boxes, buttons, split-panes, tabbed panes and tables. Thus it helps our project to implement it with the Oracle and to create a modern developer environment.

3.3.2 WHY JDBC?

Oracle 9i is completely integrated with Java, and supports a wide range of data access and development models such as JDBC. The Java Database Connectivity API is a set of classes allowing a straightforward and vendor-neutral access to database management systems. It enables the user to access virtually any tabular data source from a Java application. The major advantage of using JDBC is that it is designed to work in exactly the same way with any relational database. Thus we have used the JDBC-ODBC connection wizard to connect Java with the Oracle database.

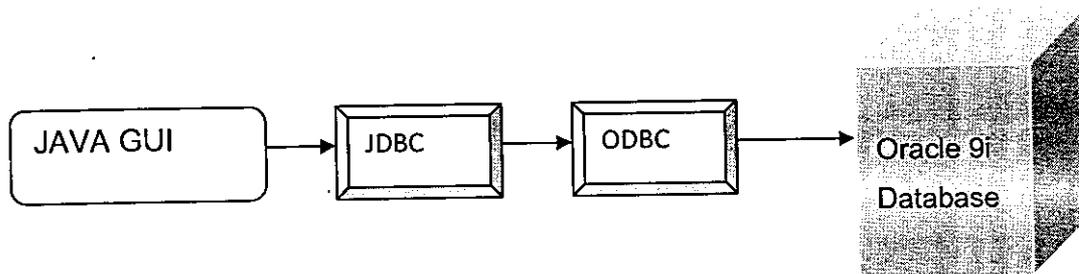


Fig. 3.1 JDBC Architecture

CHAPTER 4

SYSTEM DESIGN

Systems design is the process or art of defining the hardware and software architecture, components, modules, interfaces, and data for a computer system to satisfy specified requirements.

4.1 MODULE DESCRIPTION

4.1.1 CREATION AND MANIPULATION OF TABLES

This module deals with the creation of tables with specified attributes, data types and various integrity constraints. Also insertion of new records into the table is performed by using GUI forms. Columns will be automatically retrieved once if you give the table name. This makes insertion easier. You can also view the table description for more guidance about the data types specified for the attributes.

Updating and altering of the tables has been performed. Altering involves changing the entire structure of the table i.e., by adding a new column and by modifying the data type of the attributes already given and also dropping a column. Updating involves changing the values of the columns. Deletion is performed on the basis of four conditions, which include deletion of one or more rows, deletion of all rows and dropping a table. Manipulation of database objects with all the required parameters has also been performed in this module.

4.1.2 PRE-DEFINED FUNCTION MANIPULATIONS

Manipulation of built in functions which include Number, Character and Date functions has been performed in this module. These are implemented with respect to the dual table and also with other tables in the database using GUI forms. When you try to execute from the client side, the queries will be sent to Oracle. The results obtained after execution are retrieved from the Oracle 9i and displayed in the front end itself.

Creation and execution of Simple and nested queries has also been performed. The GUI forms created enables to execute queries with all the necessary conditions. Simple queries involve single level conditions and nested queries involve nested conditions with two levels. Aggregate functions are also implemented using GUI forms with two level conditions. Set Operations for a single table and also between two tables has been implemented. The user can also view the tables and table descriptions from the main menu itself.

4.1.3 PL/SQL EDITOR

Code editors for PL/SQL procedures and functions have been provided. This facilitates the user not to go for some other editors like notepad. Arguments can be given to the procedures and functions. The outline structure of the program will be present in the code editor in default. You can also save the program that is written in the code editors in a text format. The programs can be executed from the client side itself. The errors or results after execution are retrieved from the Oracle and displayed in the GUI form itself.

4.1.4 TABLE DUPLICATION

Table copy and table paste operations are implemented here. The table you need to copy can be viewed first. Either you can copy the entire table or you can select particular rows to copy. The viewed table can also be saved in a particular location. The selected rows or the entire table will be stored in a text format with all the details.

To paste this table, initially the user has to browse for the file that has been stored in semantic format. A table is created in the database with the details in that file. Then the records can be retrieved from the original table and inserted in the new table. Thus finally a new table will be created with all the records available in the original table.

4.2 DATA FLOW DIAGRAM

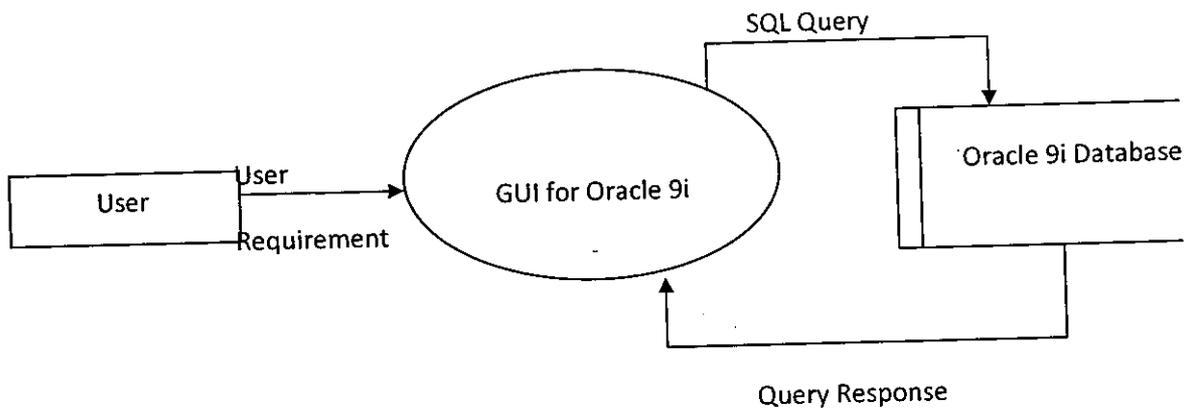


Fig 4.2.1 Level 0 - DFD

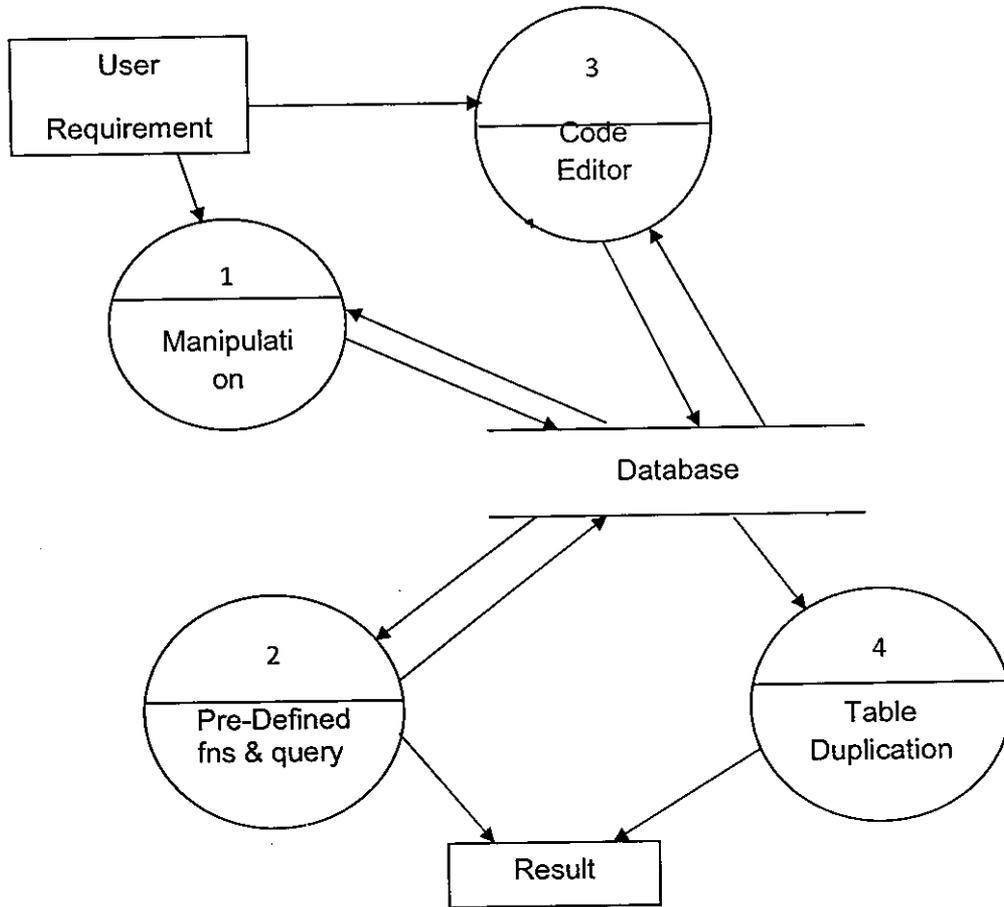


Fig. 4.2.2 Level – 1 DFD

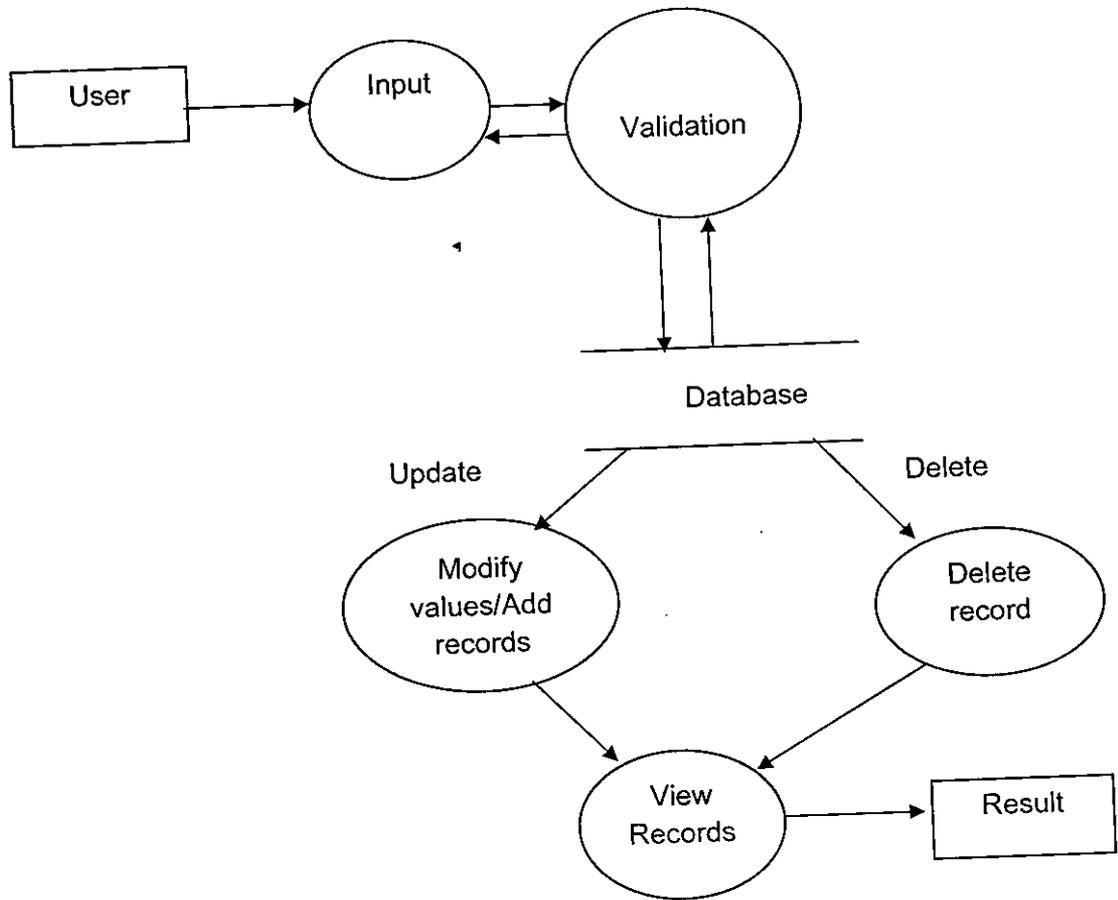


Fig. 4.2.3 Level – 2 DFD

Update and Delete



P-3224

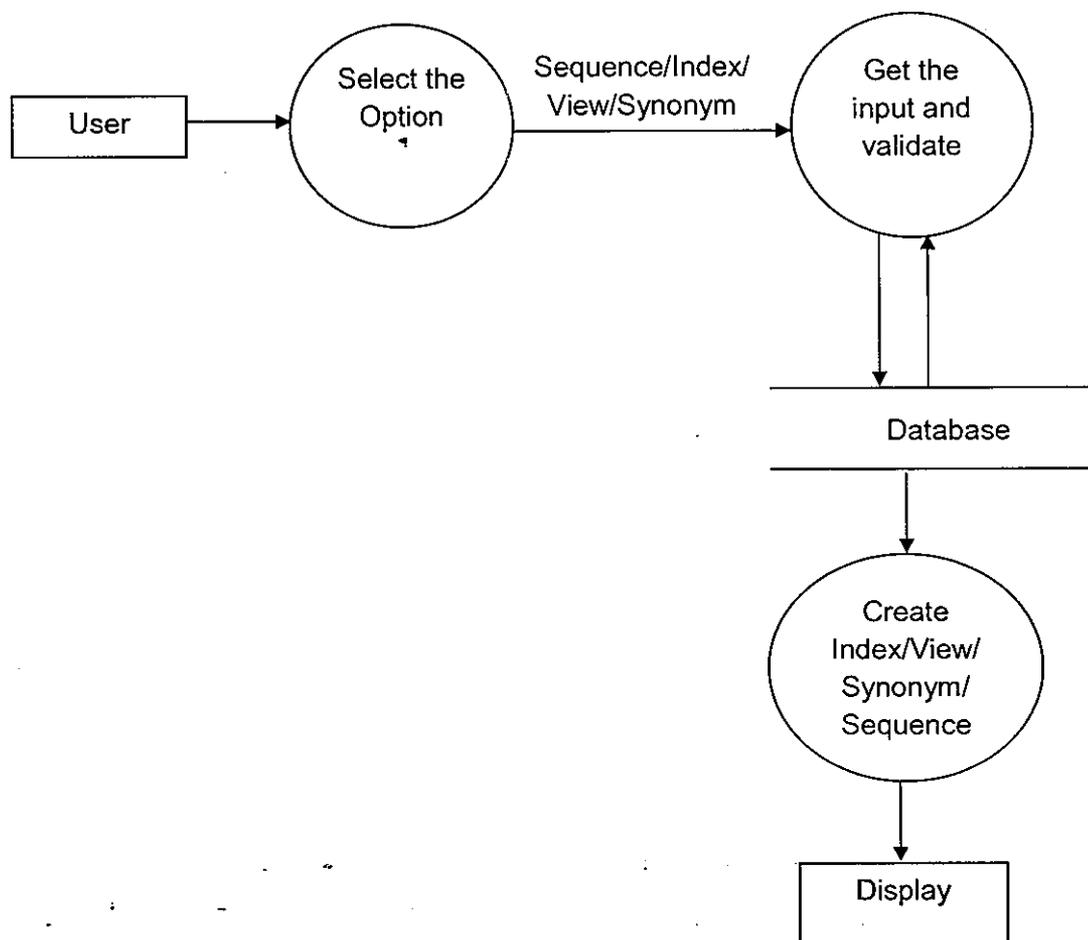
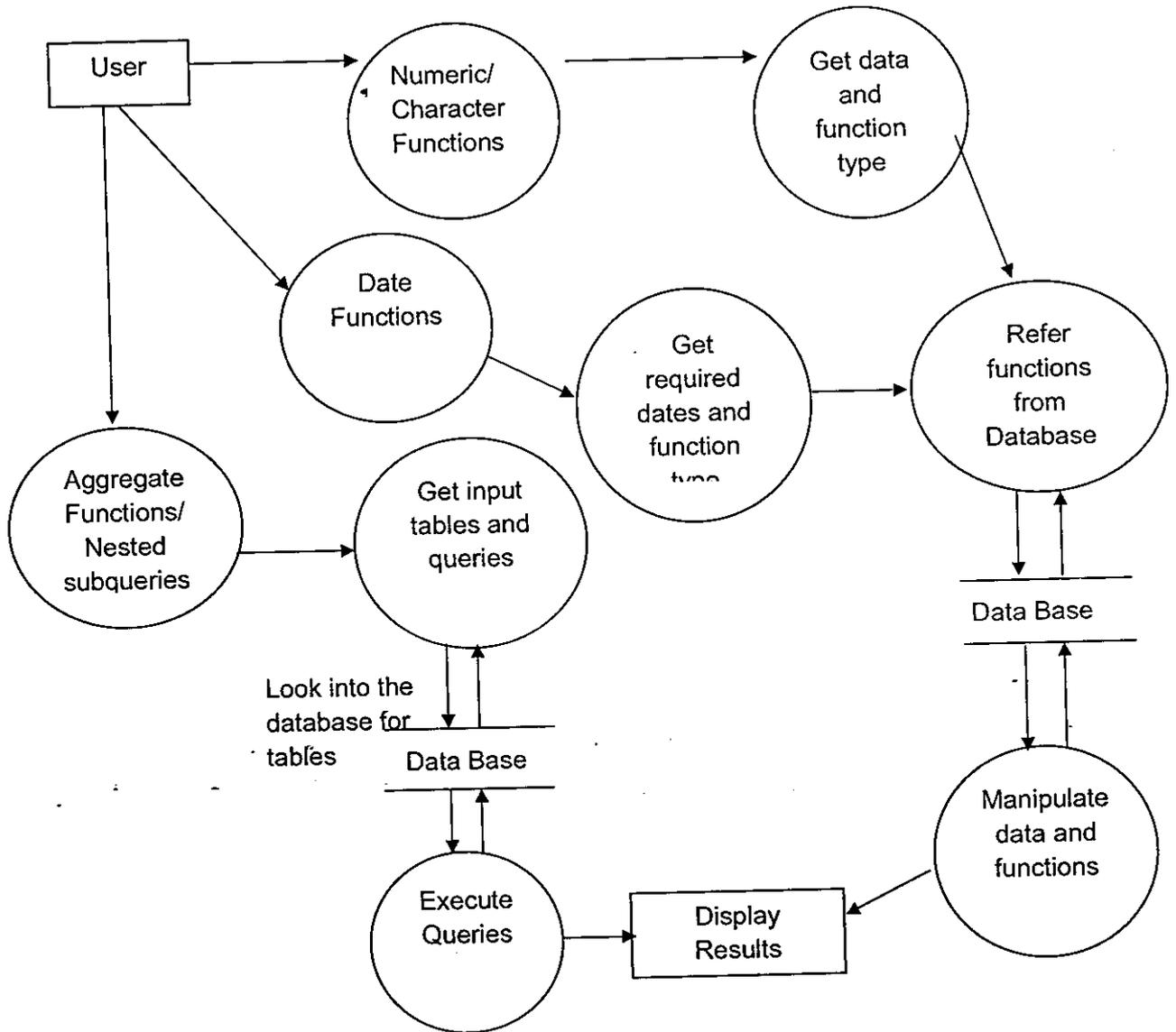


Fig. 4.2.4 Level – 2 DFD

Database Objects



**Fig. 4.2.5 Level – 2 DFD
Predefined Function Manipulations**

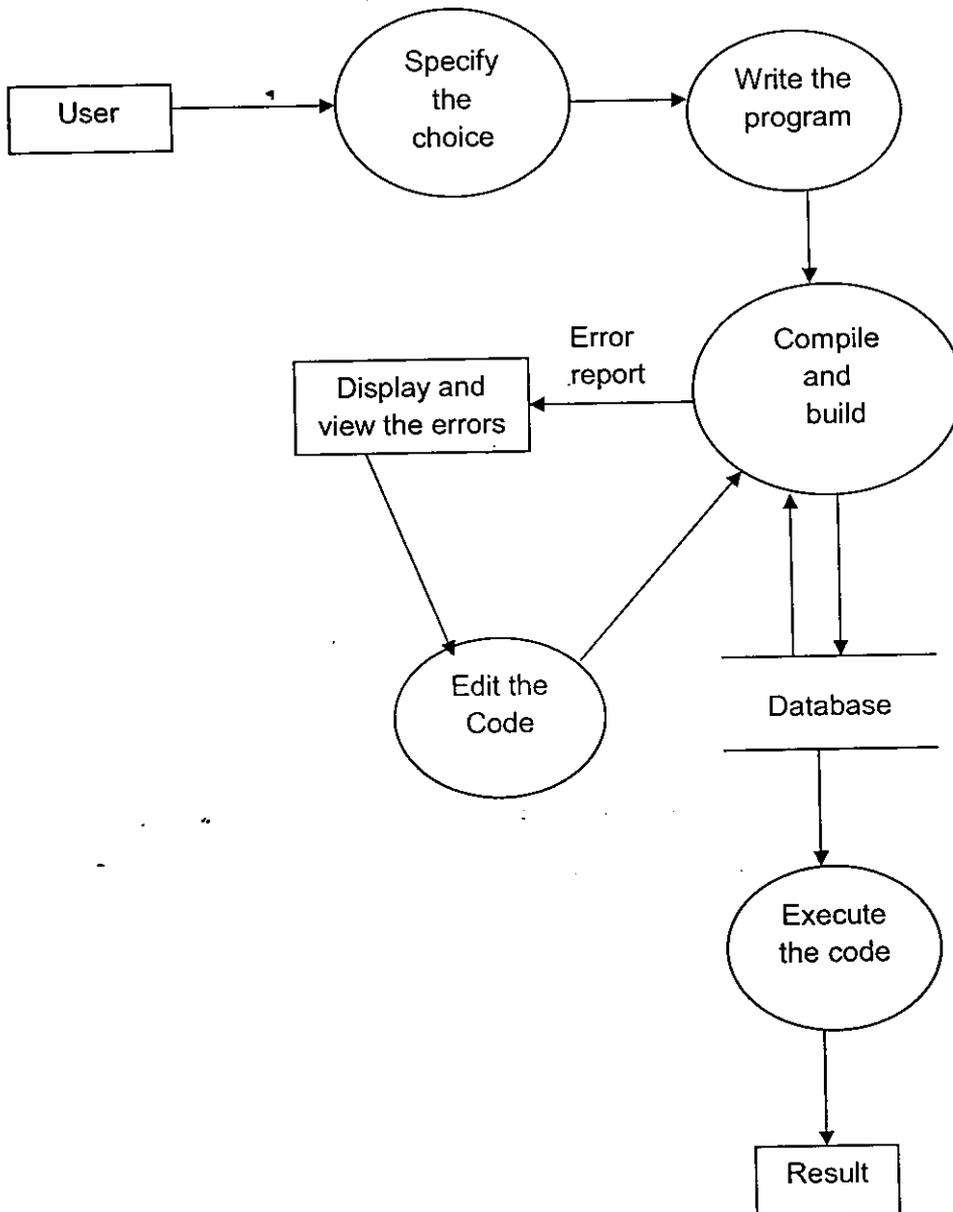


Fig. 4.2.6 Level – 2 DFD

PL/SQL Editor

4.3 PROCESS LOGIC

- Only when a table is created the query operations can be performed on that table.
- You can view the table or table description before updating or altering the table.
- Built in functions involved with user defined tables can be carried on only if the table is present in the database.
- When the table name is given, the columns will be automatically retrieved in all the modules.
- Only when a table is already created it can be copied.
- To copy the selected rows in a table, the table has to be viewed.
- Synonym and view can be created for a non-existing table.

4.4 TYPES OF REPORT FORMATION

- The outputs for table creation, table alteration, table updating, insertion of records is given using message box.
- The outputs for database objects are also given in message box.
- Built in functions for dual table are executed and the result are displayed in the GUI forms itself.
- -Built in functions for other tables are executed and the results are displayed in a table format in another wizard.
- The Outputs for simple queries, nested queries and aggregate functions are displayed in the GUI forms itself.
- The PL/SQL procedures and functions are executed and the outputs are retrieved and displayed in the front-end GUI form itself.

CHAPTER 5

SYSTEM IMPLEMENTATION

5.1 IMPLEMENTATION PROCESS

System Implementation is the part of the software engineering life cycle, where the design artifacts are converted to a working application.

This GUI for Oracle 9i project has been implemented only in the single individual pc and got the best result. It can also be implemented in the organizations with the single server with multi-client environment, where also it will produce the same output (best result). The tested product if successful is deployed in the user environment.

5.2 SYSTEM VERIFICATION

In GUI for Oracle 9i, review of interim work steps and interim deliverables during a project has been verified to ensure they are acceptable. Verification also determines that the system is consistent, adheres to standards, used reliable techniques and prudent practices, and performs the selected functions in the correct manner.

In data access, it verified whether the right data is being accessed in terms of the right place and in the right way and this verification shown positive result. For example in displaying the table description it has been verified that the right fields of the table has been retrieved for the display

5.3 SYSTEM VALIDATION

In this project, validation checks whether the developer is moving towards the right product, whether the development is moving towards the actual intended product that was agreed upon in the beginning. Validation also determines if GUI complies with the requirements and performs functions for which it is intended and meets the organization's goal and user needs. It is traditional and is performed at the end of the project.

The other validations done for the project are

- **Validation for the Table name** - Validation check for the table name (includes checking for any special characters, avoiding space etc.,) has been done for all modules.
- **Validation regarding Primary Key in Table creation** - When a primary key is specified for a particular row all the other keys are disabled. This type of validation is performed.
- **Validation for the Attribute values** - The value of the attributes should be appropriate corresponding to the data types that are already specified for the respective attributes.
- **Validation for the size of the data types** - The size of the attribute values must not exceed beyond the range mentioned for the width of the attributes.
- **Column Retrieval** - When you type for the table name and if your operation involves the column names, the column names of that particular table will be automatically retrieved and displayed.
- **Date Format Validation** - When you type for the year in the date form, validation is performed such that it does not exceed 4 characters.

CHAPTER 6

TESTING

Testing is a critical element of software quality and assurance and represents the ultimate review of specification design and coding. It is a vital activity that has to be enforced in the development of any system. This could be done in parallel during all the phases of system development. The feedback received from these tests can be used for further enhancement of the system under consideration.

The main types of test carried out on GUI for Oracle 9i are:

- Unit Test
- Integration Test
- System Test

6.1 BLACK BOX TESTING

Black Box Testing is testing without knowledge of the internal workings of the item being tested. Black box testing can be considered testing with respect to the specifications, no other knowledge of the program is necessary. For this reason, the tester and the programmer can be independent of one another, avoiding programmer bias toward his own work. Black-box testing tends to be applied during the later stages of testing.

Concerned with our project, Black Box Testing works in the following way. Regarding the initialization errors, when you attempt to login our GUI, we have checked for the connectivity with the database. So if not connected, an error message will appear. Validation testing is performed for the initial input that is given in all the modules. Only when correct inputs are given, you will get proper outputs. So validation is performed to correct the inputs that are given initially.

6.2 WHITE BOX TESTING

White box testing (also known as clear box testing, glass box testing or structural testing) uses an internal perspective of the system to design test cases based on internal structure. It is a test case design method that uses the control structure of the procedural design to derive test cases. It requires programming skills to identify all paths through the software. The tester chooses test case inputs to exercise paths through the code and determines the appropriate outputs. White box testing strategy deals with the internal logic and structure of the code.

White box Testing is works with our project in the following way. All the modules and all the programs in the module can be accessed independently with the menu consolidation we have performed. All the modules are linked through these menus. It keeps track of all the logical decisions on their true or false sides.

6.3 UNIT TESTING

Module or Unit Testing is the process of testing all the program units that make up a system. Unit testing focuses on an individual module thus allowing one to uncover all the errors made logically and while coding in the module.

In GUI for Oracle 9i each form is tested separately as a unit. Initially the flow of control and data through that form is checked. Then considering a module as a unit, the flow of data and control through the whole module is tested. The result is stored in the test plan. In a form, each control is further tested in unit testing. The process is done in all the pages of the system. The errors are rectified twice and the testing procedure is repeated with same test cases to ensure this hasn't produced new errors.

6.4 INTEGRATION TESTING

Integration Testing tests the process of integrating the various modules to form the completed system. Integration starts with a set of units each individually tested in isolation and ends when the entire application has been built. Integration testing verifies that the combined

units function together correctly. Facilitates in finding problem that occur between the individual parts.

GUI for Oracle 9i followed bottom up integration testing. Each Module linkage with another module has been tested where the flow of controls and data between the two modules had been verified. This process is continued from the page level to module level, finally to the system level. In the final stage, the whole system is taken together and tested for integration. This tests if the change has affected any part of GUI for Oracle 9i negatively after the change was made. The whole set test cases need to be run again to do the regression testing.

6.5 SYSTEM TESTING

System testing is actually a series of different tests, whose primary purpose is to fully exercise the computer-based system. This helps in verifying that all the system elements have been properly integrated and perform the allocated functions. It verifies the entire product after having integrated all software and hardware components, and validates it according to the original project requirement.

In GUI for Oracle 9i project the system testing performed on the java and oracle connection by means of checking ODBC-JDBC connection with the database and software's.

6.6 SECURITY TESTING

Security testing is important in system testing. Testing is done to ensure that a user with respective rights can only view the various forms and reports presented by GUI for Oracle 9i. If users try to perform something beyond his assigned rights corresponding messages should be displayed. Then the system displays in such cases displays an error message.

In GUI for Oracle 9i project provides security by means of login id and password authentication which has been tested and result in high security.

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1 CONCLUSION

GUI for Oracle 9i provides you a GUI environment which helps the users to work efficiently. The beginners of Oracle will gain a wide knowledge about Oracle and it helps them to learn Oracle very easily in a short period of time. It's easily understandable and thus reduces complexity. It also enables the users to learn the syntax for the queries since we have displayed the generated queries.

Our project provides Oracle in a Visual Studio Type of environment which is usually user friendly. It is developed in a modern developer environment and has many useful features to help in the day to day work with databases. Hence, if you need a good tool to create queries and user defined functions rapidly, we hope the GUI will be your alternative.

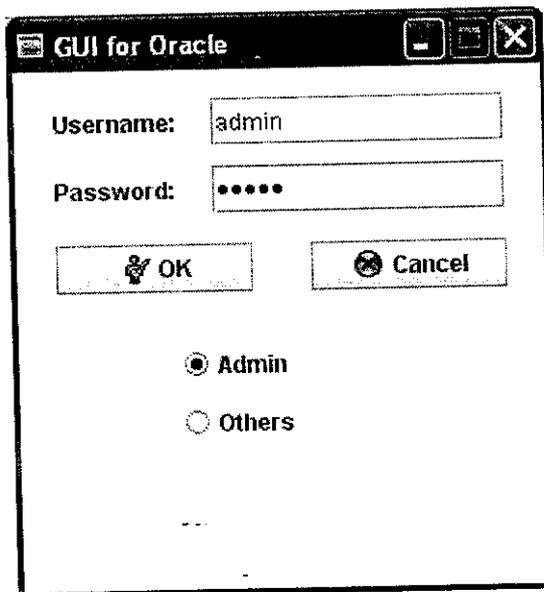
7.2 FUTURE SCOPE AND FURTHER ENHANCEMENTS

- We have only implemented the datatypes varchar, char, number, time, date for table attributes since our project is time consuming. In future implementing with other variables such as CLOB, BLOB, BFILE and RAW can further enhance our project.
- Our project can also be enhanced to create user-defined variables.
- We have implemented the built-in functions to be used for a single column in a particular table. This can be further enhanced by implementing the built in functions for more than one column in the same query both in the dual table and also in other tables.
- Nested queries and aggregate functions are be implemented with two level conditions. Implementing with any level conditions can enhance our project in future.
- Triggers and Packages can be implemented in future.
- Conditions can be added in the creation of the database objects such as view and index.
- This project can still be enhanced with creating GUI forms for complex queries.

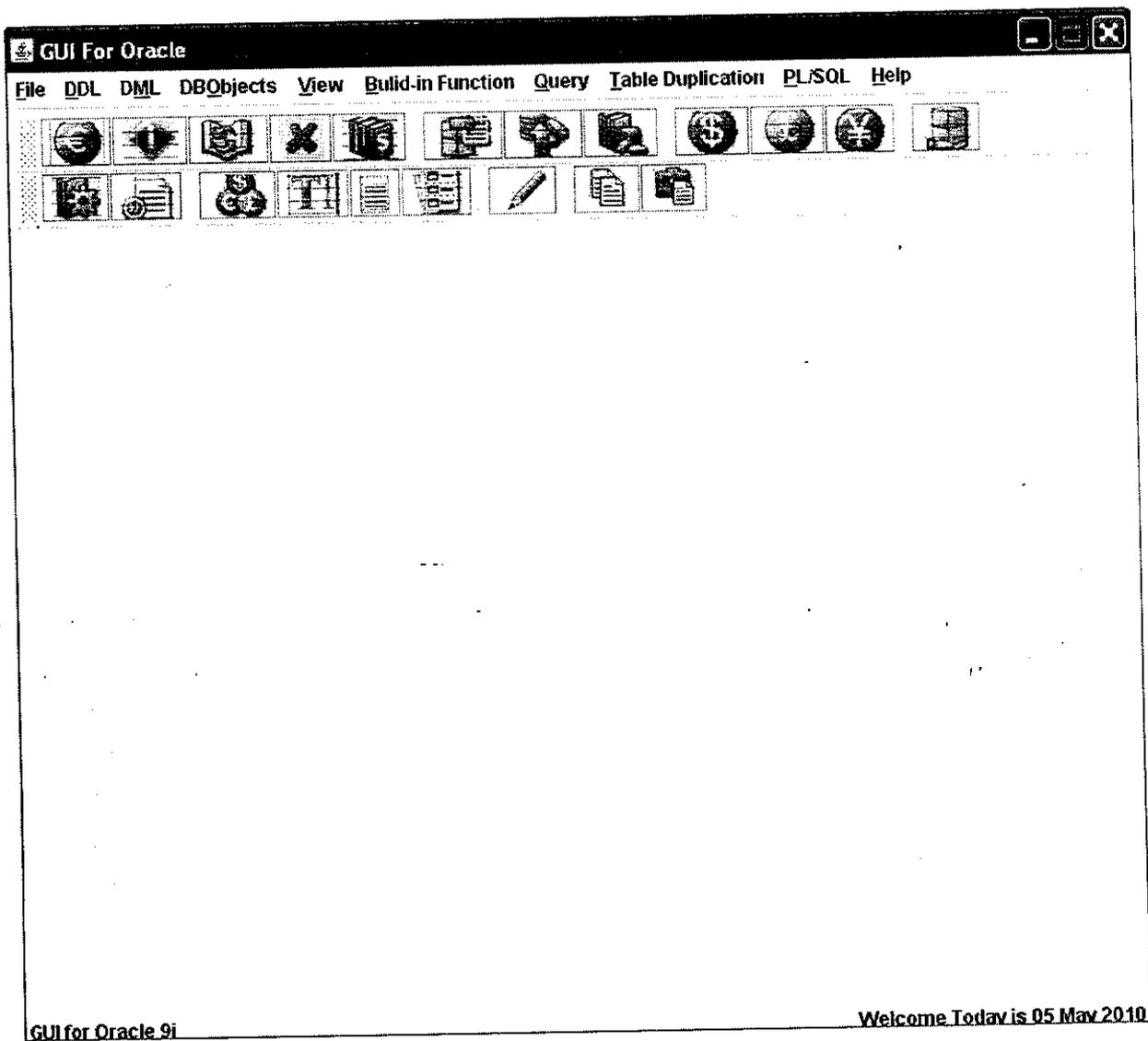
APPENDIX

SAMPLE SCREEN

A.1 USER LOGIN



A.2 HOME



A.3 TABLE CREATION

Table Name:

| Attributes | Data Type | Column Width | PK | UK | FK | NOT NULL | CHECK | DEFAULT |
|-----------------------------------|--------------------------------------|---------------------------------|----------------------------------|--------------------------|-------------------------------------|-------------------------------------|----------------------|---------------------------------|
| <input type="text" value="name"/> | <input type="text" value="varchar"/> | <input type="text" value="25"/> | <input type="radio"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| <input type="text" value="id"/> | <input type="text" value="number"/> | <input type="text" value="6"/> | <input type="radio"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| <input type="text" value="age"/> | <input type="text" value="number"/> | <input type="text" value="5"/> | <input checked="" type="radio"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |
| <input type="text" value="mark"/> | <input type="text" value="number"/> | <input type="text"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="50"/> |
| <input type="text"/> | <input type="text" value="Select"/> | <input type="text"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> | <input type="text"/> |

Foreign key For Column id

Table Name: delete cascade

Column name:

A.4 TABLE MANIPULATION

Insert

Enter the Table Name:

Insert Record

| | |
|------|--|
| NAME | <input type="text" value="diya"/> |
| ID | <input type="text" value="55"/> |
| AGE | <input type="text" value="21"/> |
| SEX | <input type="text" value="f"/> |
| DOJ | <input type="text" value="24-jan-87"/> |

A.5 ALTERING AND UPDATE

Alter

Alter Table | Update Table

Table Name:

add modify drop

Column Name: Select Type:

PK: UK: FK: NOT NULL: CHECK: DEFAULT:

Query:

```
alter table staff_details add(GP number(10) CHECK (GP>1000));
```

Alter

Table Successfully Altered...

A.8 NUMBER FUNCTIONS FOR DUAL

Number

Numeric Functions

Function Name: ceil

Argument value:

Execute

Query:
Select ceil(18.2) from dual;

Result:
19

A.9 DATE FUNCTIONS FOR TABLES

The image shows two overlapping windows from a database application. The 'Date' dialog box is in the foreground, and the 'QUERY RESULT' window is partially visible behind it.

Date Dialog Box:

- Table Name:
- Function Name: (dropdown menu is open showing options: add_months, last_day, months_between, next_day, round, trunc, new_time)
- Number:
- Buttons:
- Query:

QUERY RESULT Window:

| add_months(DOJ) |
|-----------------------|
| 1999-07-23 00:00:00.0 |
| 1978-09-19 00:00:00.0 |
| 1956-10-20 00:00:00.0 |
| 1936-07-24 00:00:00.0 |

A.10 DATABASE OBJECTS

Dbobj

Synonym Sequence Index View

Sequence Name:

Minimum Value: Maximum Value: Start with:

Increment By: Cache Value:

cycle nocycle

Create Sequence

Sequence

Sequence Successfully Created...

OK

Query:

```
Create sequence seqe1 minvalue 1 maxvalue 9999 cycle start with 1 increment by 1
cache 40;
```

A.11 PL/SQL PROCEDURE

Procedure

File Help

| | | | | | |
|------------------|--------|---|---|---------------|--|
| New | Ctrl-N | | | | |
| Create Procedure | Alt-C | 1 | + | Add Parameter | |
| Call Procedure | Alt-E | | | | |
| Home | Ctrl-H | | | | |
| Save | Ctrl-S | | | | |
| Close | Ctrl-X | | | | |

varchar IN OUT

varchar IN OUT

Enter your code between 'BEGIN' and 'END'

```

qtyord number;
qtydeld number;
code varchar2(5);
BEGIN
select qty_ord,qty_deld,itemcode into qtyord,qtydeld,code from
order_detail where orderno = no;
if qtydeld < qtyord then
b:=code;
end if;
END;
```

Procedure

A.12 TABLE COPY

Table Copy

ENTER THE TABLE NAME: common

DISPLAY RECORDS Copy Cancel

| NAME | ID | AGE | DOB | SEX |
|---------|----|-----|------------|-----|
| divya | 8 | 21 | 1987-01-24 | f |
| sabitha | 36 | 21 | 1986-11-27 | f |
| srisu | 43 | 22 | 1986-11-12 | f |
| wishnu | 48 | 23 | 1985-03-25 | m |
| priya | 44 | 21 | 1987-03-26 | f |
| vidhya | 65 | 23 | 1898-05-12 | f |
| jaya | 39 | 56 | 1988-06-18 | f |
| kumar | 2 | 45 | 1888- | |
| siva | 60 | 34 | 1989- | |
| ramya | 32 | 10 | 1876- | |
| Raja | 9 | 35 | 1999- | |

Save

Save In: Desktop

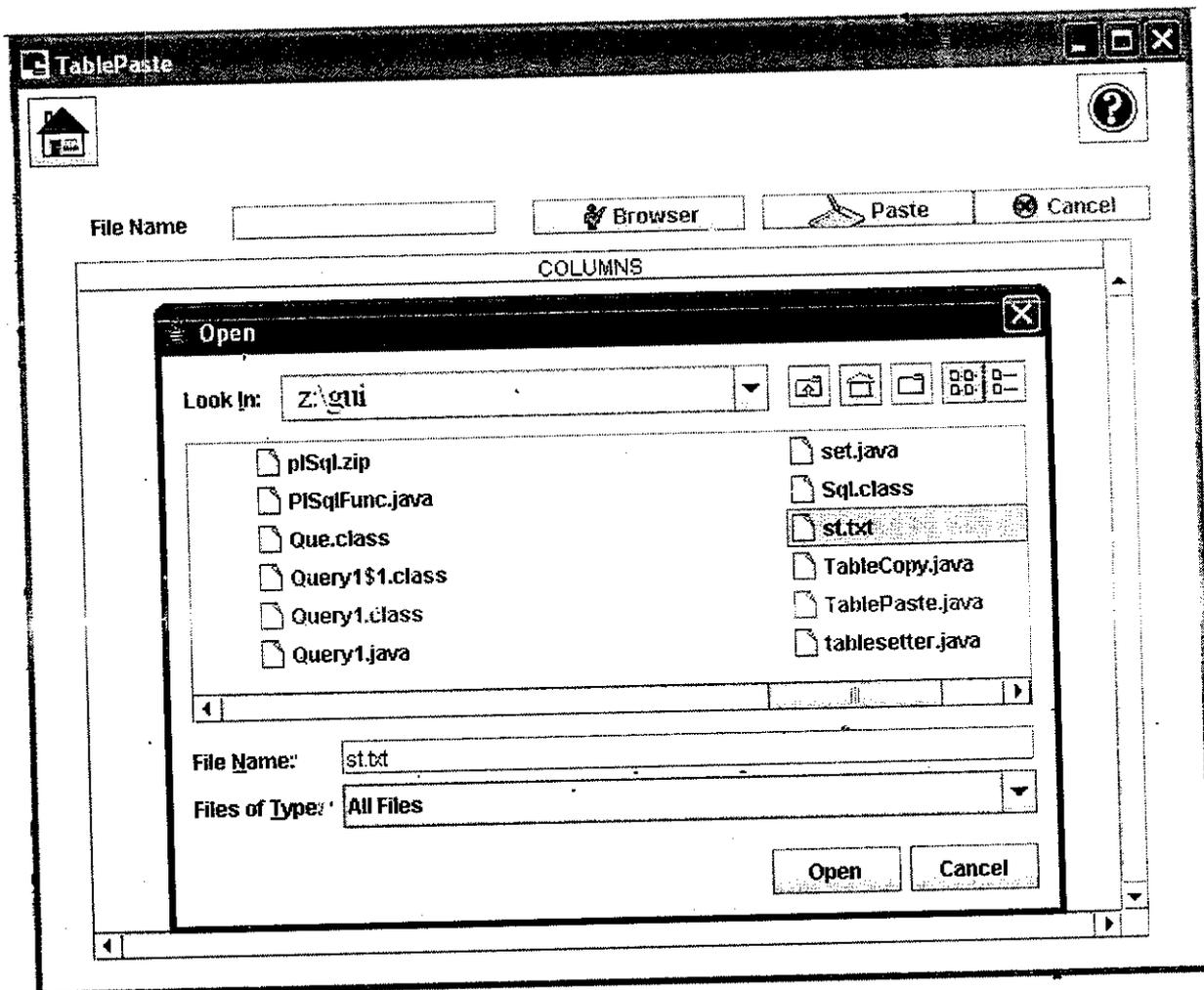
- My Documents
- My Computer
- My Network Places
- Chapter 1 Introduction_files
- QC
- Report
- STUDY
- vishnu
- 2.bmp
- 3.bmp
- Aggregate.java
- alter.bmp

File Name: acop

Files of Type: All Files

Save Cancel

A.13 TABLE PASTE



REFERENCES

REFERENCE BOOKS

- John O'Donahue., 2002, "Java Database Programming," John Wiley & Sons., New Delhi.
- Donald Bales., 2001, "Java Programming with Oracle JDBC," O'Reilly., 12 Dec, p.450.

WEBSITES

- www.javaworld.com
- www.java2s.com.