

ORACLE USER INTERFACE

PROJECT WORK DONE AT
PENTASOFT TECHNOLOGIES LIMITED
CHENNAI

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
M.Sc. APPLIED SCIENCE [SOFTWARE ENGINEERING]
OF BHARATHIAR UNIVERSITY, COIMBATORE.

SUBMITTED BY

SARAVANAN. P. R
REG NO 9937S0091

UNDER THE GUIDANCE OF

EXTERNAL GUIDE

Mr. S. MANOJ
PENTASOFT TECHNOLOGIES LTD.
CHENNAI.

INTERNAL GUIDE

Mr. M. MANIKANDAN
DEPT. OF CSE, KCT.
COIMBATORE - 6.



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE - 641 006

NOV 2003 - MAR 2004

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
KUMARAGURU COLLEGE OF TECHNOLOGY
(Affiliated to Bharathiar University)
COIMBATORE - 641 006
MARCH - 2004

CERTIFICATE

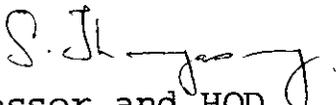
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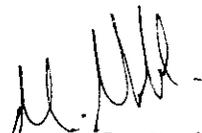
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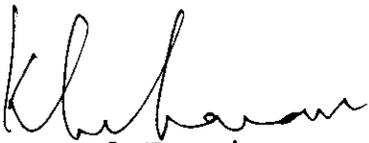
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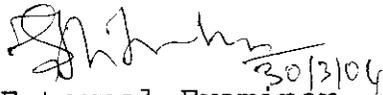
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Professor and HOD


Internal Guide

Submitted to University Examination held on 30/3/04


Internal Examiner


External Examiner



09 March, 2004

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.P.R.Saravanan**, pursuing fifth year M.Sc. Software Engineering at **Kumaraguru College of Technology**, Coimbatore, has successfully completed the project titled "**Oracle User Interface**" in the area of Oracle and VB. The duration of the project was from October 2003 till March 2004.

During this period, we found him to be sincere and hardworking.

With Regards,

For PENTASOFT TECHNOLOGIES LTD.,

M.A.Farzana

Centre Manager

CONTENT

ACKNOWLEDGEMENT

To add meaning to the perception, it is my indebtedness to honor a few who had helped me in this endeavor, by placing them on record.

With profound gratitude, I am extremely thankful to **DR.K.K.Padmanaban B.Sc.(Eng), M.Tech, Ph.D.**, principal, Kumaraguru College of Technology, Coimbatore for providing me an opportunity to under go the M.Sc. APPLIED SCIENCE [SOFTWARE ENGG.] course and there by this project work also.

I extend my heartfelt thanks to my CSE department head **Prof.Dr.S.Thangasamy B.E(Hons), Ph.D.**, for his kind advice and encouragement to complete this project successfully.

It's my privilege to express my deep sense of gratitude and profound thanks to **Mr.S.Manoj M.C.A, Project Guide, PENTASOFT Technologies Ltd., Chennai** for having allowed mo to do project work in his esteemed team and for helping me in all means in successful completion of this project.

Gratitude will find least meaning without thanking my course coordinator **Mr.K.R.Baskaran Assistant Professor & Course Co ordinator** and **Mr. M.Manikandan MCA.** For the valuable guidance and support thought my project.

Words are boundless for me to express my deep sense of gratitude and profound thanks for **Miss.A.Farzana M.Sc** and all my associates at Pentasoft for the valuable guidance and support thought my project.

My gratitude is due to all staff members of CSE department, my parents and my friends for their moral support and encouragement for successful completion of my project.

ACKNOWLEDGEMENT

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INTRODUCTION

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

The objective of this project is to provide a simple and user-friendly graphical user interface using which any end user in an organization can easily create data tables and enter, store and retrieve data from it.

For creating a table the GUI provides an entry form in which Table names, Field names, Data Types, Field Size etc.. can be entered easily, rather than entering them in lengthy command formats.

It provides all data definition feature like CREATE, ALTER, DROP, all data manipulation features like SELECT, INSERT, UPDATE, DELETE and other simple SQL functions that are available with any other RDBMS like ORACLE.

However all the operations can be done fast and with ease by any end user in the organization. It is not necessary for the end user to remember any SQL command or function to operate this software. But yet he can do everything possible with Oracle, using this software.

Features in SQL like constraints are also provided in the software.

Advanced SQL Commands for Database administration are also provided in the software.

Basically the software is of two parts the Front end and the Back end. The Front end is developed using tools like Visual Basic, ORACLE 8 provides the back end.

1.2 ORGANIZATION PROFILE

Pentasoftware Technologies Limited (formerly Pentfour communication Limited) with the acquisition of the Software Division from Pentfour Software and Exports Limited (PSTL) has recorded acquired for USD 205 million, has added to the revenue growth of the company. The company has registered a turnover Rs.100.01 Crores for the quarter ended December 31, 2000. The turnover for the nine months ended December 31, 2000, is Rs.286.70 crores.

The company focuses on 5 main SBU's namely Business Software Services; Education and Training; System Integration; Engineering services and Internet & Communications Services. The Company is awarded ISO 9001 Certificate in the areas of Engineering Services (CAD/CAM).

The company has tied up with IBM as business partner, Sybase, Compaq, Oracle, Microsoft, Novell, silicon Graphics, apple, synon, obsidian, SUN, SSA, Eastman Kodak, DELL (Asia) and Purdue University, UAS, Siemens for Exchange and Video Conferencing, Comsat Max for VSAT, AT & T for Networking to give a total solution through integration of Hardware, software and Networking.

Pentsoft technologies Ltd., has a wide network of offices spread over North America, Europe, Australia, Mauritius, Singapore, Malaysia, Thailand, Bangalore, Bombay, Calcutta, Coimbatore, Delhi, Hyderabad, Madurai, Mangalore, and Trivanandapuram.

**SYSTEM STUDY AND
ANALYSIS**

2.0 SYSTEM STUDY & ANALYSIS

2.1 EXISTING SYSTEM

In the existing system, the user has to login on SQL and then he has to carry out each and every operation via commands, the user has to memorize the all the need commands such as creation of table, inserting values, updating values, creating constraints and so on.

Drawbacks:

Enormous amount on time consumption for doing this

- ❖ Operations are time consuming. Whenever a need for search arises, the process evolves search through the paper records. Searching amount a large number of records is really tedious and time consuming.
- ❖ In case of creating constraints such as primary key, the user has to provide the right command, there a more possibilities for creation of errors, this would make the user more un comfortable with the application
- ❖ Each and every time whenever the user want to access a small amount of data from a table, he has to start from the beginning such as getting connected, and executing the appropriate command on accessing tables.

2.2 PROPOSED SYSTEM

The Oracle User Interface is a Visualized system that aims and user friendliness. Hence there are no needs of

executing commands. Any sort of work such as creation of tables, insertion of values and all other operations related to database can be easily carried out by clicking.

All the actions involved in accessing the table is made very user friendly, the one who is not familiar with tables will also be able to have a clear vision on using the application. Hence the Oracle User Interface would be the easiest application for creating tables and manipulating data's.

PROGRAMMING

ENVIRONMENT

3.0 PROGRAMMING ENVIRONMENT

3.1 HARDWARE CONFIGURATION

SERVER:

Processor	:	Pentium III
Speed	:	433 MHZ
Ram	:	128MB
Hard Disk	:	20 GB
Operating System	:	Windows 2000
Disk Drives	:	1.44 Floppy Disk Drive, 40 x
Compact Disk	:	
Monitor	:	14" Color Monitor

CLIENT:

Processor	:	Pentium
Speed	:	400 MHZ
Ram	:	64 MB
Hard Disk	:	10 GB

3.2 DESCRIPTION OF SOFTWARES & TOOLS USED

Front-End : Microsoft Visual Basic 6.0
Back-End : Oracle

ABOUT MICROSOFT VISUAL BASIC 6.0

The "Visual" part refers to the method used to create the graphical user interface (GUI). Rather than writing numerous lines of code to describe the appearance and location of interface elements, you simply add pre built objects into place on screen. If you've ever used a drawing program such as paint, you already have most of the skills necessary to create an effective user interface.

The "Basic" part refers to the BASIC (Beginners All - Purpose Symbolic Instruction Code) language, a language used by more programmers than any other language, a language used by more programmers than any other language in the history of computing. Visual Basic has evolved from the original BASIC language and now contains several hundred statements, functions, and keywords, many of which relate directly to the windows GUI.

Data access features allow you to create database, front-end applications, and scalable server-side components for most popular database formats.

ActiveX technologies allow you to use the functionality provided by other applications, such as Microsoft Word, Microsoft Excel, and other windows applications.

Internet capabilities make it easy to provide access to documents and applications across the internet or intranet from within your application or to create Internet server applications.

Your finished application is a true .exe file that uses a Visual Basic virtual machine that you can freely distribute.

Event-Driven Model

In traditional or procedural applications, itself controls which portions of code execute and in what sequence. Execution starts with the first line of code and follows a predefined path through the application, calling procedures as needed.

In an event driven application, the code doesn't follow a predetermined path it executes different code sections in response to events. Events can be triggered by the user actions, by message from the system or other applications, or even from the application itself. The sequence of these events determines the sequence in which the code executes, thus the path through the applications code differs each time the program runs.

Your code can also trigger events during execution. For example programmatically changing the text in a text box cause the text box changes event to occur. This would cause the code contained in the change event to execute. If you assumed that this event would only by triggered by user interaction, you might see unexpected results.

VB SCRIPT

Unlike most other languages VB script allows only one data type: variant .A variant is a variable type that can hold any type of fundamental data type, including integers,

floating points, characters, strings and data item values, variant data types may also represent instance of objects.

With variants, we don't have to worry about ensuring that our variable is adequately prepared to handle unexpected data. However, although the variable itself might be able to contain any type of data occur routines will often be required to check for the type of data that is stored in a variable to ensure proper VB script execution. A variable name must begin with an alphabetic character. The remainder of the name may contain any alphanumeric characters, including underscores ("-")

- The length of a variable cannot exceed 255 characters
- Periods may not be embedded in a variable name
- A variable name must be unique within the scope in which it is define

SYSTEM DESIGN

4.0 SYSTEM DESIGN

4.1 INPUT DESIGN

Input design is a part of overall system design, which requires very careful attention. If the data going into the system is incorrect then the processing and output will magnify these errors.

About project data's

The inputs in the system are of three types:

1. **External:** which are prime inputs for the system.
2. **Internal:** which are user communications with the system.
3. **Interactive:** which are inputs entered during a dialog with the computer.

The above input types enrich the proposed system with numerous facilities that make it more advantageous in comparison with the existing normal system .all the input entered are completely raw, initially, before being entered into a database, each of them availing processing. The input format in this system has been designed with the following objectives in mind.

Intelligent output design will improve systems relationships with the user and help in decision making. Outputs are also used to provide a permanent hardcopy of the results for latter consultations. The most important

reason, which tempts the user to go for a new system is the output. The output generated by the system is often regarded as the criterion for evaluating the usefulness for the system. Here the output requirements use to be predetermined before going to the actual system design. The output design is based on the following

- Determining the various outputs to be presented to the user.
- Differentiating between inputs to be displayed and those to be printed.

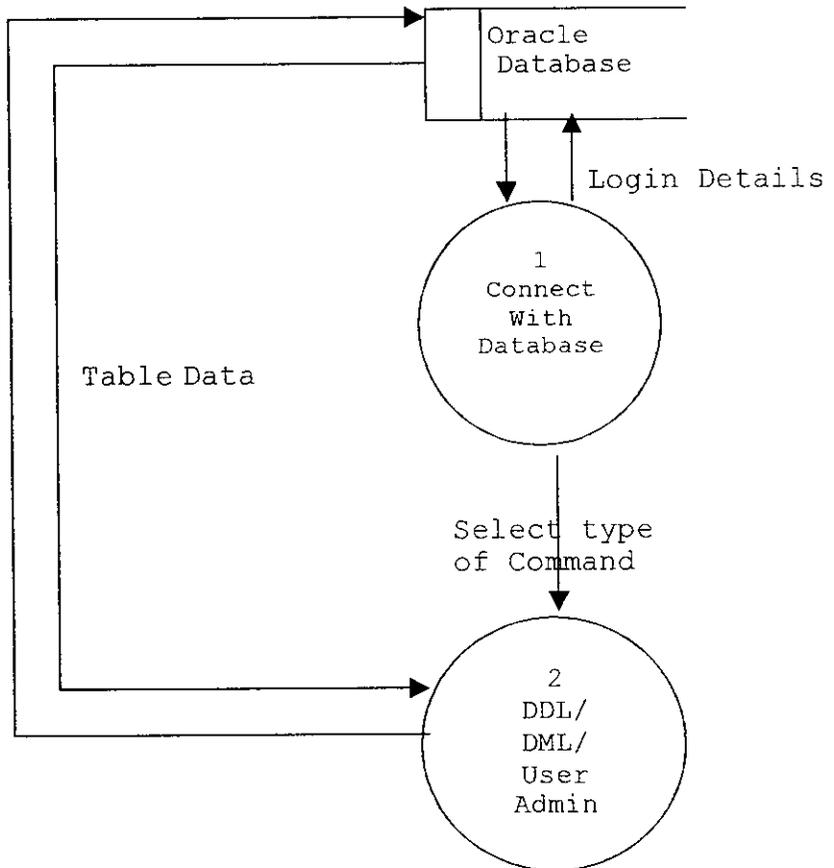
- The format for the presentation for the outputs.

4.2 DATABASE DESIGN

The database is a collection of data designed to be use by different people. It's a collection of interrelated data stored together with controlled redundancy to serve one or more applications in an optional fashion. The data is stored in such a fashion that it is independent of the programs of people using the data. A Common and controlled approach is used in adding new data and modifying and retrieving existing data with in database.

4.3 PROCESS DESIGN

Level 0



SYSTEM

IMPLEMENTATION &

TESTING

5.0 SYSTEM IMPLEMENTATION & TESTING

5.1 System Implementation

Implementation is that stage of the project when the theoretical design is turned into a working system. At this stage of the main workload, the greatest upheaval and the major impact on the existing practices shifts to the user department. A lot of planning has to go in for the successful implementation of the system.

Bearing in mind that implementation is a project in itself; care was taken to develop an effective methodology for implementing the system. The major steps that were carried out in these stages are summarized below:

- Training was given to the user of the system both theoretically as well as practically. They were briefed on the lines on the objectives of the system, how to operate it and the benefits that would be reaped from the system.
- The system was tested in the user's environment and the user was prompted to give his suggestions.
- Existing data was converted into file structures compatible to the system.

- The strategy used changeover of the system was parallel changeover. The manual system was run parallel along with the automated system to test the validity of the system.

Maintenance issues

Maintenance is the ease with which a program can be corrected if any error is encountered, adapted if its environment changes or enhanced if the customer desires a change in requirements.

The software is characterized by the following activities. In this project considerable amount of time is spent in maintenance and monitoring.

1. Corrective maintenance.
2. Adaptive maintenance.
3. Perfective maintenance.
4. Preventive maintenance.

Corrective maintenance

Corrective maintenance is to uncover the error still exist after testing. During this maintenance work the user is asked to work on the system and if any error is reported.

Adaptive maintenance

The adaptive maintenance is needed if the platform or the environment of the project is to be change. For the project the language takes care of all these things.

Perfective maintenance

The third maintenance activity is perfective maintenance. The recommendation of new capabilities and modification of existing function and general enhancement are received from the user and proposed for future enhancement.

Preventive maintenance

The preventive maintenance is to improve the future maintainability and reliability and to provide better basis for future enhancement.

5.2 System Testing

Testing is a predominant technique to validate the system developed .the process begins from preparing test plan. The phases in the testing process are that done during implementation to verify the software and one after it to validate the system and to access the reliability of it. We have done both. The test data were provided manually

or simulated by writing code for it .we mainly followed a bottom-up approach for testing.

The testing phase, an unavoidable part of software development promotes error detection, a complete verification determining whether the objectives and the user requirements are fulfilled. The system test is based on the given below following

Program Testing

Program testing promotes an error-free program by correcting the syntax and logical error. When a program is tested the actual output is compared with the expected output. When there is a discrepancy the sequence of instruction must be traced to determine the problem.

Breaking the program down into self-contained portions, each of which can be checked at certain points, facilitates the process. The idea is to compare program values against desk calculated values to isolate the program.

Unit testing

Unit testing is done to check the correctness and validity of modules. Errors are rectified per module and program clarity is increased.

Sequential or series testing

Sequential or series testing is checking the logic of one or more programs in the candidate system, where the out

put of one program will effect the processing done by other program

Integration testing

In integration testing all modules are clipped under the major module and tested again to verify the results. A module can have inadvertent, adverse affect on any other or on the global data structures, causing serious problem. A problem arising due to the poor interfacing such as data loss age is corrected in this phase.

System testing

System testing, the final step uncovers the weakness not found in early stages. This involves validation and testing which determines whether the software functions as the user expects it. Modifications are made so that at the completion phase it satisfied the end-user.

There should be careful planning of how the system will be provoked and the test data designed. The system analyst should be quite clear about the test objectives. System test data can rarely be compressive enough to test the system fully. Some aspects of the system will have to be tested using the live operation.

CONCLUSION

6.0 CONCLUSION

The main objective of developing the application entitled **Oracle User Interface** is to provide a user friendly application for database creation. The term database plays a major role in software development; the major applications used for database are Oracle, Microsoft Access, FoxPro etc. All these applications have their own way of creating database, this application is based on user friendliness, although the user is not familiar with database he can create and manipulate data's, as because the screens are designed in such an easy manner.

**SCOPE FOR FUTURE
DEVELOPMENT**

7.0 SCOPE FOR FUTURE DEVELOPMENT

The software has been developed with the present working condition and environments in mind. The current environment is a fast growing area and new features, new technologies and different work styles are expected. Hence this software has been developed with near future needs in mind and it has appropriate slots for any future enhancements or modifications.

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BIBLIOGRAPHY

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- www.otn.oracle.com
- www.oracle.co.jp/proc/

APPENDIX

SAMPLE SCREENS

SAMPLE SCREENS

Fig.1 Oracle Database Login Form

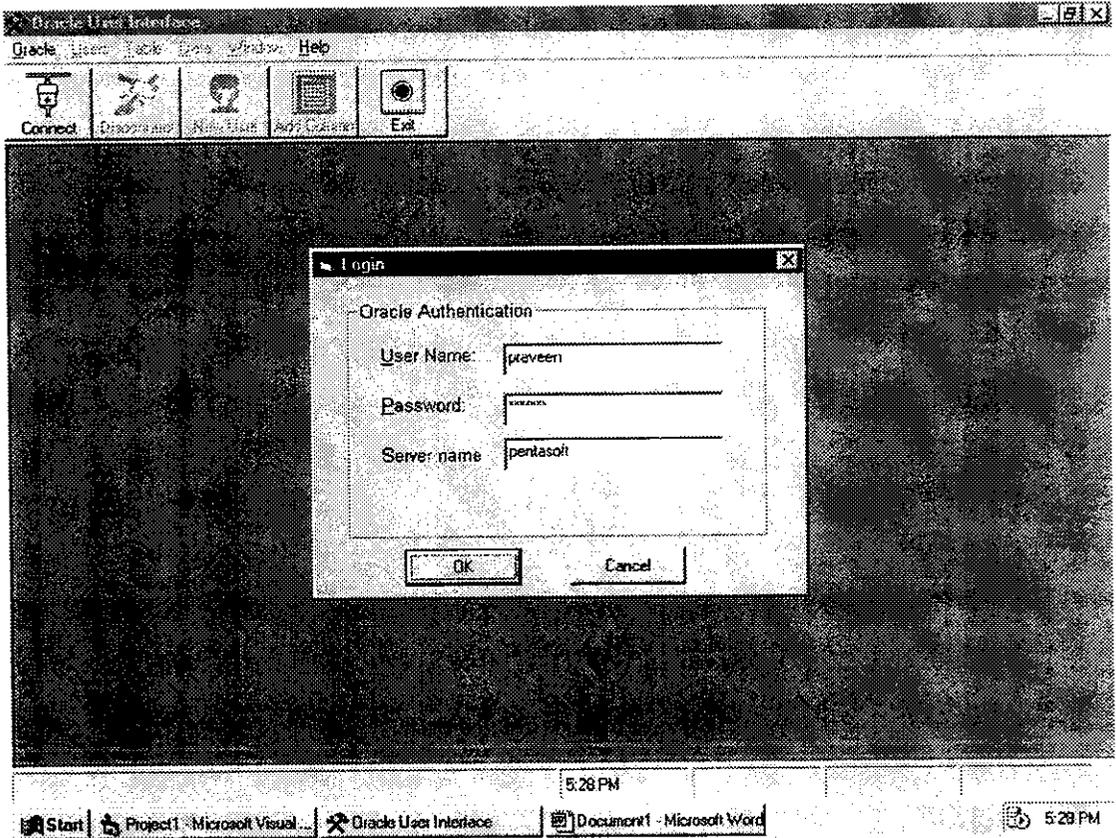


Fig.2 Oracle Database Objects List Form

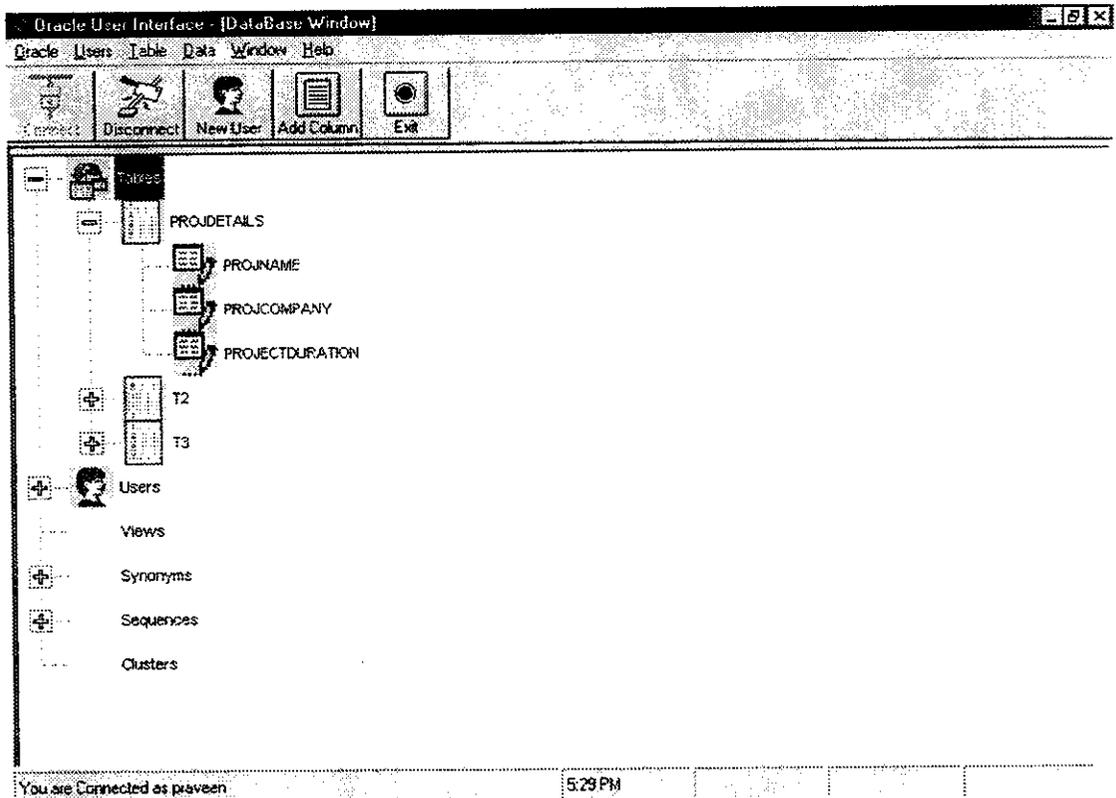


Fig.3 New User Creation Form

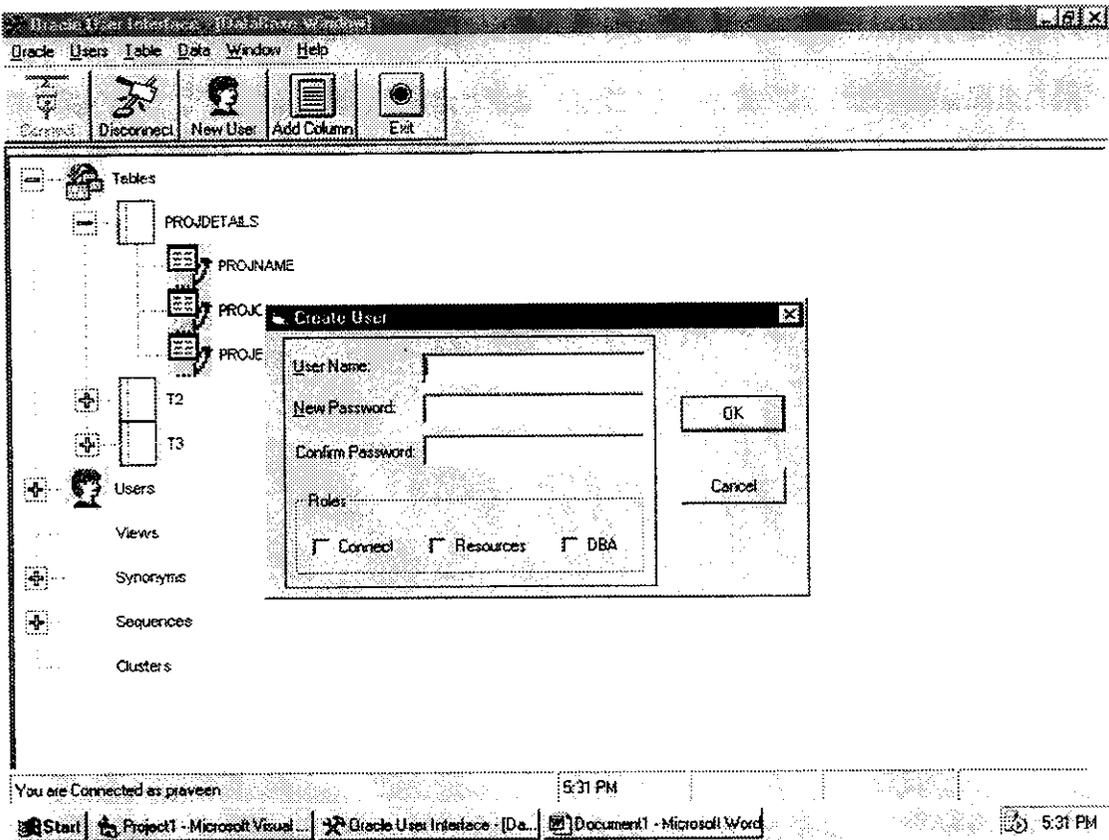


Fig.4 Table Creation Form - Add Column Form

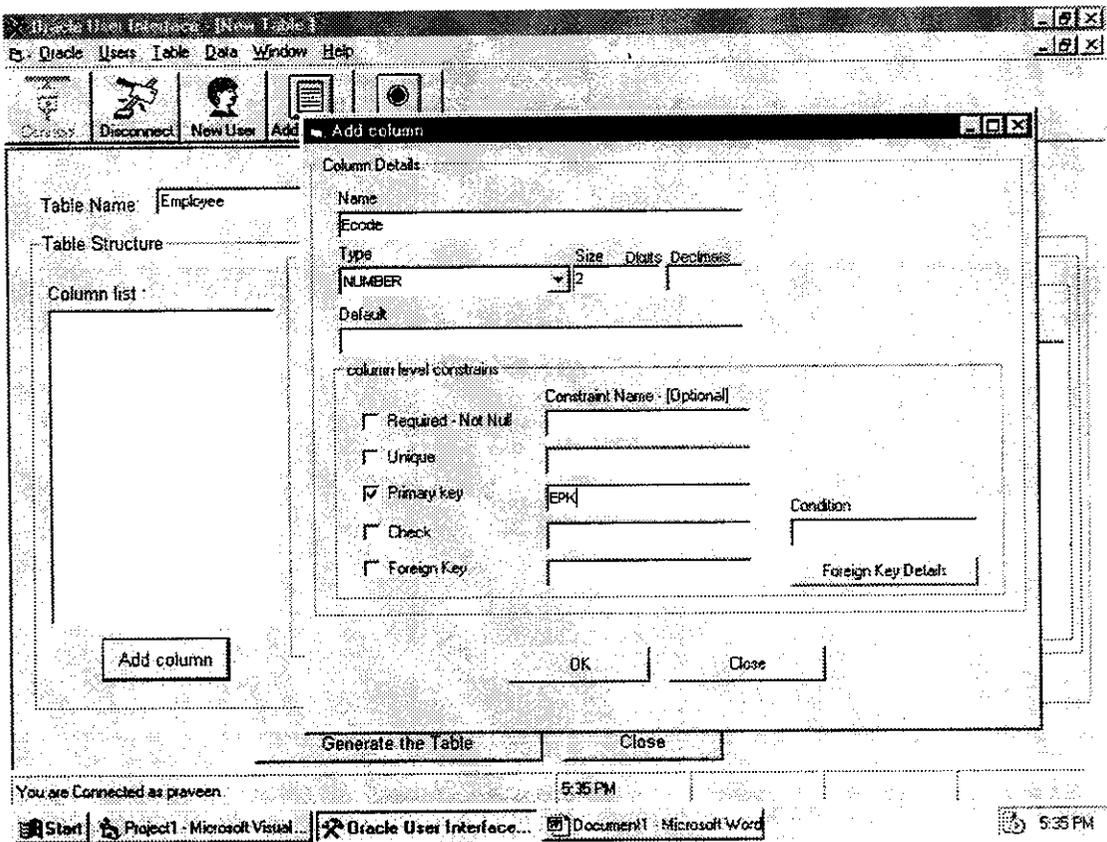


Fig.5 Table Creation - Add Columns Form

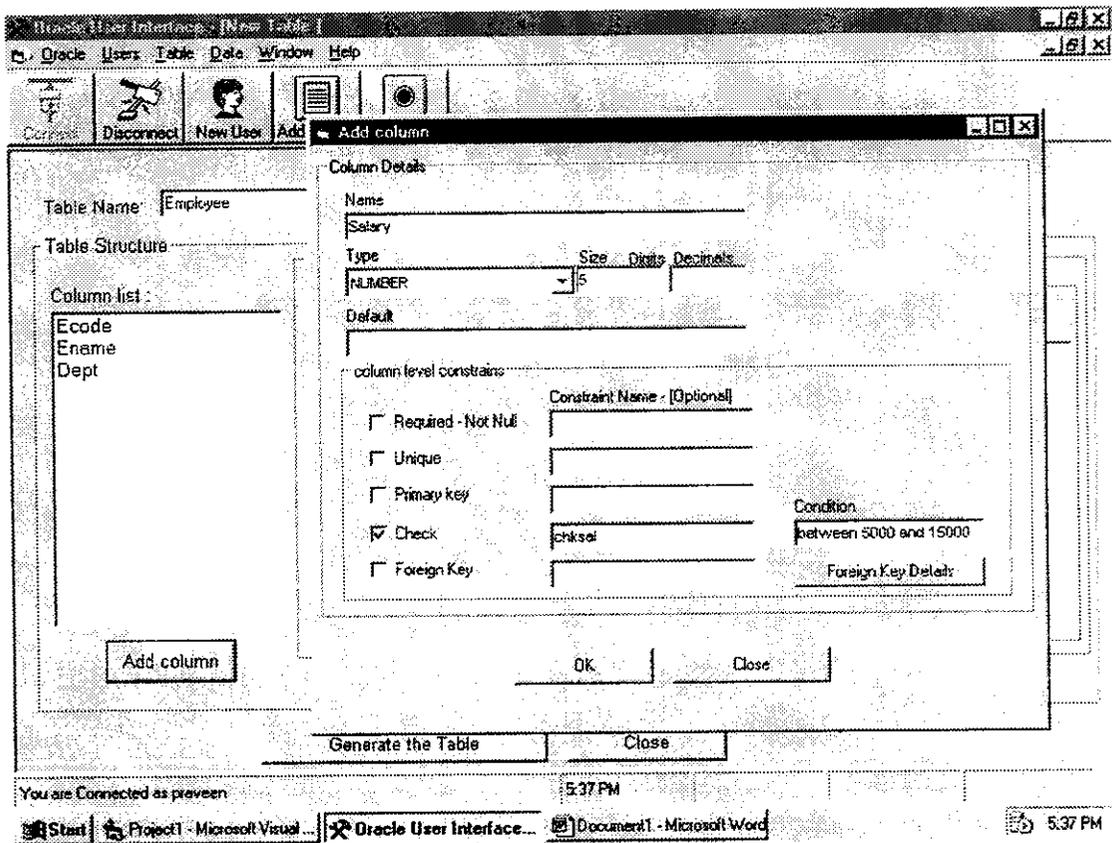


Fig.6 Table Creation Form

Oracle User Interface - [New Table]

Table Name: Employee

Table Structure

Columns List

- Ecode
- Ename
- Dept
- Salary
- Job

Add Column

Column Definition

Name: Job

Type: VARCHAR2 Size: 5

Default:

Column level constraints

- Not Null
- Unique
- Primary Key
- Foreign Key
- Check: between 5000 and 15000

Table Level Constraints

Composite Primary Key

Table Columns: Ecode, Ename, Dept, Salary, Job

Key Columns: Ecode, Ename

Buttons: Cancel, Apply, OK

Fig.7 Table Structure Modify Form

Oracle User Interface - [Modify Table]

Oracle Users Table Data Window Help

Connect Disconnect New User Add Column Exit

Table Name: CUSTOMER

Table Structure

Column list:

CUSTOMER_ID - NUMBER(6)	Rename Column	
NAME - VARCHAR2(45)	Rename Column	Rename To
ADDRESS - VARCHAR2(40)		
CITY - VARCHAR2(30)		
STATE - VARCHAR2(2)		
ZIP_CODE - VARCHAR2(9)		
AREA_CODE - NUMBER(3)		
PHONE_NUMBER - NUMBER(7)		
SALESPERSON_ID - NUMBER(4)		
CREDIT_LIMIT - NUMBER(9)		
COMMENTS - LONG(0)		

Modify Column: Change to Data Type Size

Add column: New Column Name Change to Data Type Size

OK CANCEL

You are Connected as demo 5:45 PM

Fig.8 View Table Structure Form

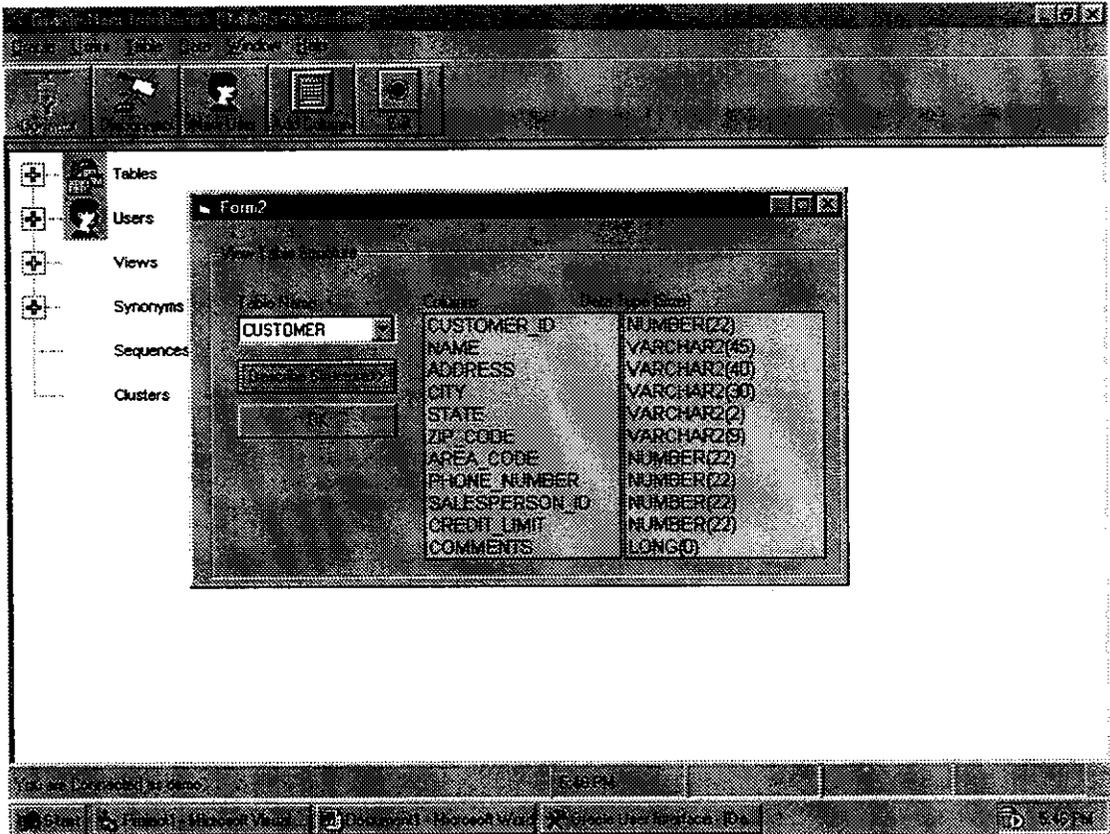


Fig.9 View Table Data Form

Oracle User Interface - [Oracle User Interface - View Table Data]

CUSTOMER

CUSTOMER ID	NAME	ADDRESS	CITY	STATE
100	JOE'S SPORTS	246 VENNIDGE	DELMONT	CA
101	TED SPORT SHOP	400 BOLLING	REDWOOD CITY	CA
102	VOLEYNTE	8722 HAMILTON	BURLINGAME	CA
103	JUST TENNIS	981 VIEW MALL	BURLINGAME	CA
104	EVERY MOUNTAIN	674 SHIPP RD.	CAPERTON	CA
105	R & T SPORTS	3475 EL PASO	SANTA CLARA	CA
106	SHAPE UP	884 SERRA	PALO ALTO	CA
107	WOMEN'S SPORTS	VALCO VILLAGE	SUNNYVALE	CA
108	NORTH WOODS HEALTH AND	86 LOW PINE WAY	REDING	IN
201	STADIUM SPORTS	41 IRVING PL.	NEW YORK	NY
202	HOOPS	2746 ADAMS AVE.	LEICESTER	MA
203	DEBORAH SPORTS	2 E. 14TH ST.	NEW YORK	NY
204	THE POWER FORWARD	13075 LAUNING	DALLAS	TX
205	PORT GUARD	28 THURSTON ST.	YONKERS	NY
206	THE COLISEUM	6478 WILBUR TL.	SCARSDALE	NY
207	FAST BREAK	1808 HERBERT L.L.	CONCORD	MA
208	AL AND BOY'S SPORTS	264 YORKTOWN CT.	AUSTIN	TX
211	AT BAT	234 BEACHEM ST.	BROOKLINE	MA
212	ALL SPORT	1000 24TH ST.	BROOKLYN	NY
213	GOOD SPORT	400 46TH ST.	SUNNYSIDE	NY
214	AL'S PRO SHOP	45 SPRUCE ST.	SPRING	TX

Values Compared at 0:00:00

Fig.10 View Filtered Table Data Form

The screenshot shows a database application window titled 'Oracle Users Table Data Window Help'. The main window displays a table named 'CUSTOMER' with the following data:

CUSTOMER ID	NAME	ADDRESS	CITY	STATE
100	JOCKSPORTS	345 VIEWRIDGE	BELMONT	CA
101	TKB SPORT SHOP	498 BOLI RD.	REDWOOD CITY	CA
102	VOLLYRITE			
103	JUST TENNIS			
104	EVERY MOUNTAIN			
106	K + T SPORTS			
106	SHAPE UP			
107	WOMENS SPORTS			
108	NORTH WOODS HEA			
201	STADIUM SPORTS			
202	HOOPS			
203	REBOUND SPORTS			
204	THE POWER FORWA			
206	POINT GUARD			
206	THE COLISEUM			
207	FAST BREAK			
208	AL AND BOB'S SPO			
211	AT BAT			
212	ALL SPORT			
213	GOOD SPORT	400 46TH ST.	SUNNYSIDE	NY
214	AL'S PRO SHOP	45 SPRUCE ST.	SPRING	TX

A 'Filter Table' dialog box is open, showing the following configuration:

- Table Name: CUSTOMER
- Table Columns: ADDRESS, CITY, STATE, ZIP_CODE, AREA_CODE, PHONE_NUMBER, COMMENTS
- Filtered Columns: CUSTOMER_ID, NAME, SALESPERSON_ID, CREDIT_LIMIT

The taskbar at the bottom shows the system time as 5:56 PM and several open applications: Start, Project1 - Microsoft Visual..., Document1 - Microsoft Word, and Oracle User Interface... The system tray shows the time 5:56 PM.

Fig.11 Sequence Creation Form

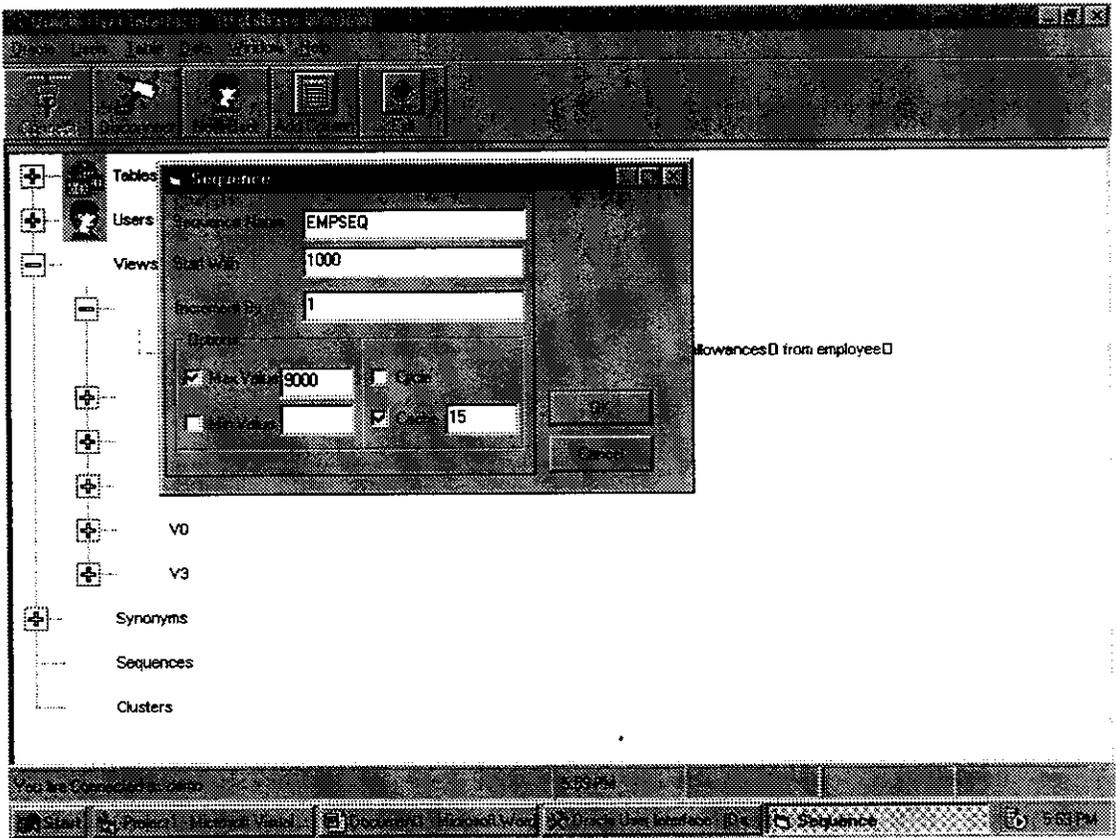


Fig.12 Synonym Creation Form

