

**Republic of Iraq
Ministry of Higher Education
and Scientific Research
University of Baghdad
College of Science
Department of Computer Science**



**Continuing Education System
for the Consultative Office of Information Systems
and Computers of Computer Center at Baghdad University**

**A project
Submitted to the Department of Computer Science, College of Science,
University of Baghdad in Partial Fulfillment of the Requirements for
the Degree of B.Sc. in Computer Science**

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2011

بسم الله الرحمن الرحيم

فَالْحَمْدُ لِلَّهِ الْعَلِيمِ

صدق الله العظيم
سورة طه - الآية 114

Dedication

To all we teach from them
To every one who helps us
and encourages us





Acknowledgment


Praise be to **ALLAH**

*For always helping us to finish
this project*

*All the thanks and grateful words are
not enough for
our Supervisor*

*Mr. Safaa Khalil Murtatha
and*

All the thanks to all our Professors



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**Continuing Education System
for the Consultative Office of Information Systems
and Computers of Computer Center at Baghdad University**

ABSTRACT

Our project is to design and implement a system of continuing education of the consultative Office of Information Systems and Computers of Computer Center at the University of Baghdad, by using the language of Oracle Database Management System 10g and Developer 6i software.

The project aims to solve the problem of storing all the information related to the system of continuing education, which includes details of each training course like , name of training course, cost, period, and the beginning date. And also details of the participants in these courses, staff training, as well as print reports which include forms the presence of the participants in each course and the result show with the top three students in each course.

Chapter One

Introduction

The aim of this Project is to design and implement a continuing education system for Computer Center in Baghdad University by using Oracle Database Management System 10g and Developer 6i software.

Oracle is a system for managing relational DBMS databases and information management work required by turning them into a database useful in the process of decision-making and monitoring work performance and improve productivity and access to a top speed in the completion of the work. We use this language that due to its:

- 1- Confidentiality of information, as available to protect the information system superior in terms of construction on other systems.
- 2- To deal with large amounts of data up to millions of mega bytes.
- 3- Excellent support provided by Oracle users throughout the world through its website.

Adopted in the programming of this system on: -

- 1- Language SQL (Structured Query Language), a structural query language which can access to stored data and perform operations on them (add - edit - delete) in the tables have been designed in advance.
- 2- PL/SQL (Programming Language/Structured Query Language) is the language of inquiry and its procedural rules as any other language in the writing of programs and functions sspecial functions.

Chapter Two

Theoretical Part

The system consists of a set of tables are:

- 1 - Training Schedule
- 2 - Table of participants
- 3 - schedule staff training
- 4 - schedule staff training certificates
- 5 - Table identification sessions
- 6 - table of results

The composition of these tables is as follows:

1- Training Course Table:

Configure this table, which contains information about the courses: the session number, name, duration and history, and the cost of participation, as shown in Figure (1).

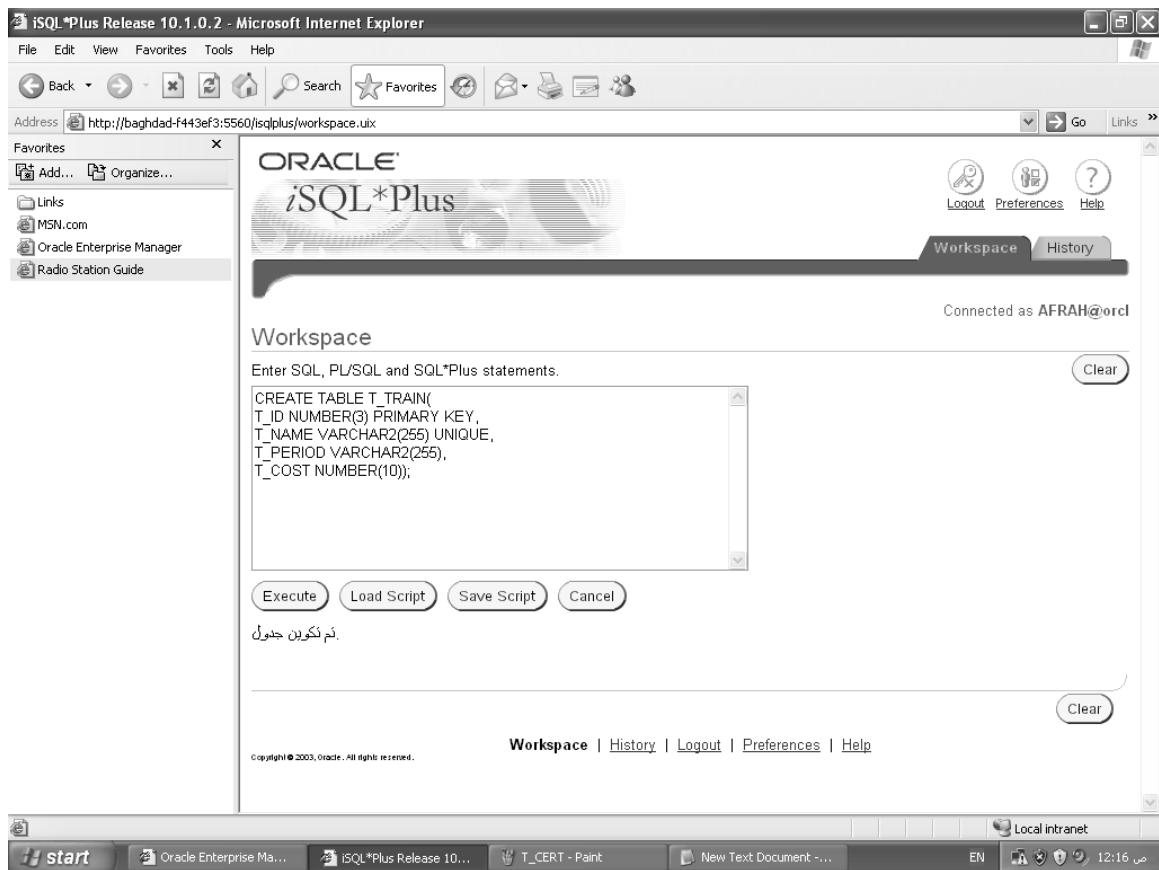


Fig (1): Shows the Design of Courses Table

2 – Participants Table

This table includes the following fields : No. of participant in the course, participant's name, nomination department, letter's nomination number, number and date of beginning participate in training course, number and date of ending participate, number, date and type of supporting (personal or car), valid and expired date of support, number and type of car if support (car), as shown in Figure (2).

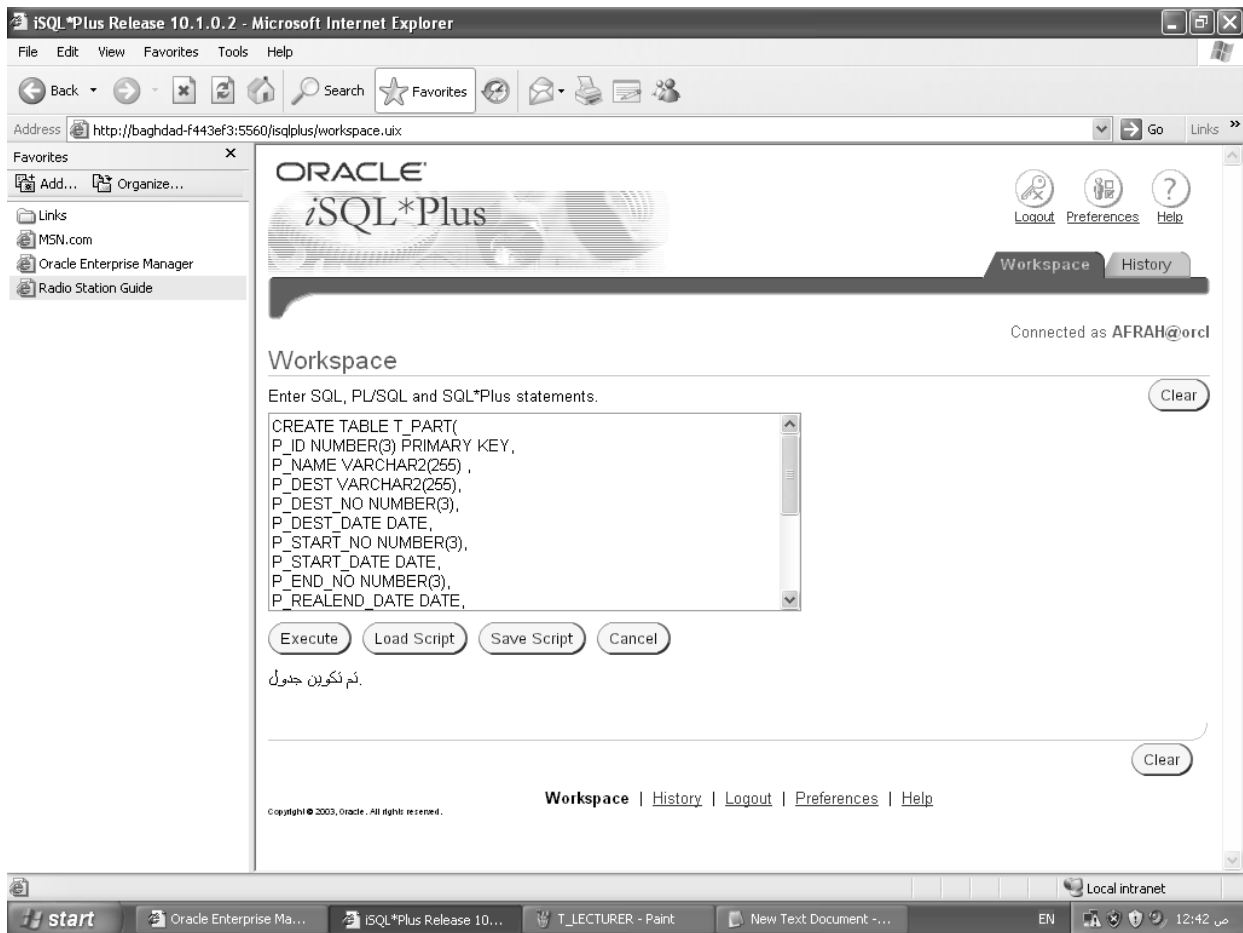


Fig (2): Shows the Design of Participation in Courses Table

3 - Lecturers in Training Courses Table

This table includes these fields: the name of the lecturer, academic certification, specialized training courses, in addition to winning the global certificates (if any), as shown in Figure (3).

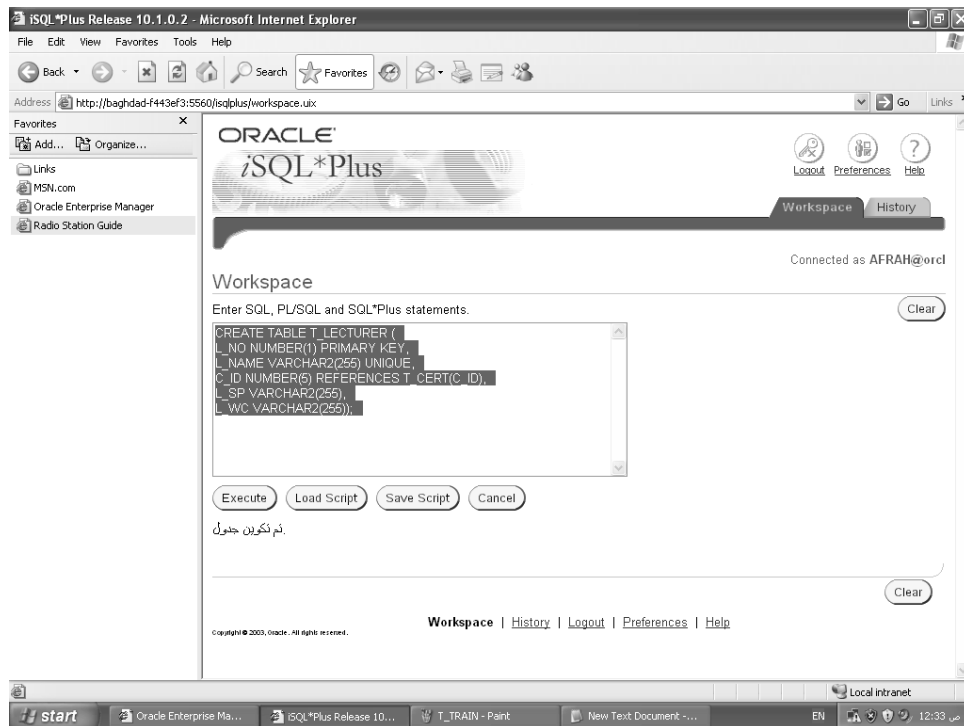


Fig (3): Shows the Design of Lecturers in Training Courses Table

4 – Lecturer’s Certificates in Training Courses Table

This table includes a list of academic certificates to the lecturers from diploma up to doctorate degree above and figure (4) shows the design of this table.

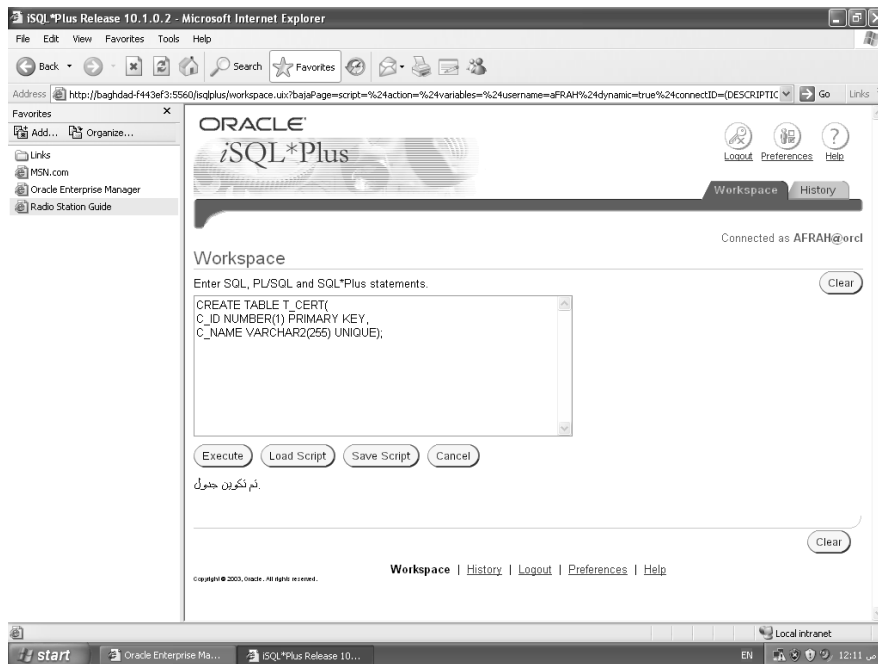


Fig. (4) : Shows the designing of Lecturer’s certificates in Training Courses Table

5 – Customization of Training Course Table

This table consists of the following fields: course number, course name to be allocated to each lecturer, as shown in Figure (5).

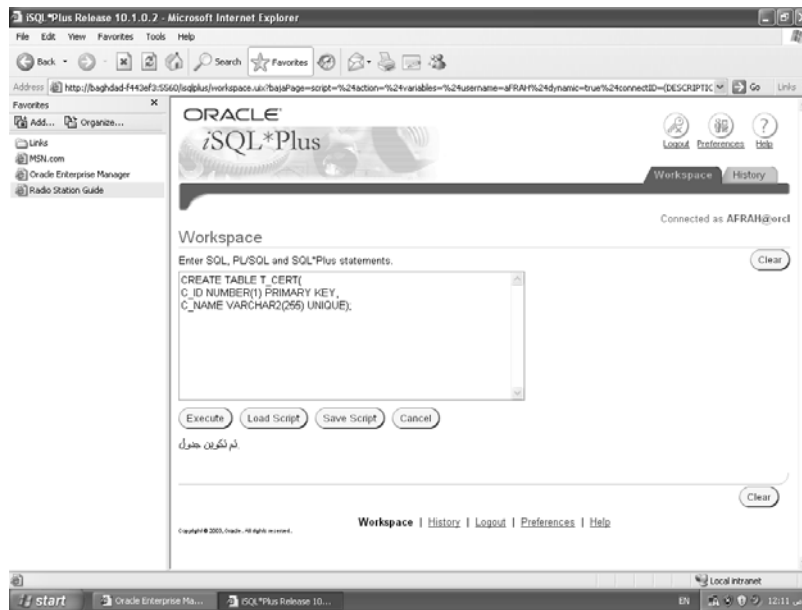


Fig. (5) : Shows the designing of Customization of Training Courses Table

6 – Training Courses Results Table

This table includes the following fields: a number of the training course, number of the participant, and as a result of participation and appreciation of the sequence with the top three participants in the training course, Figure (6) shows the design of this table.

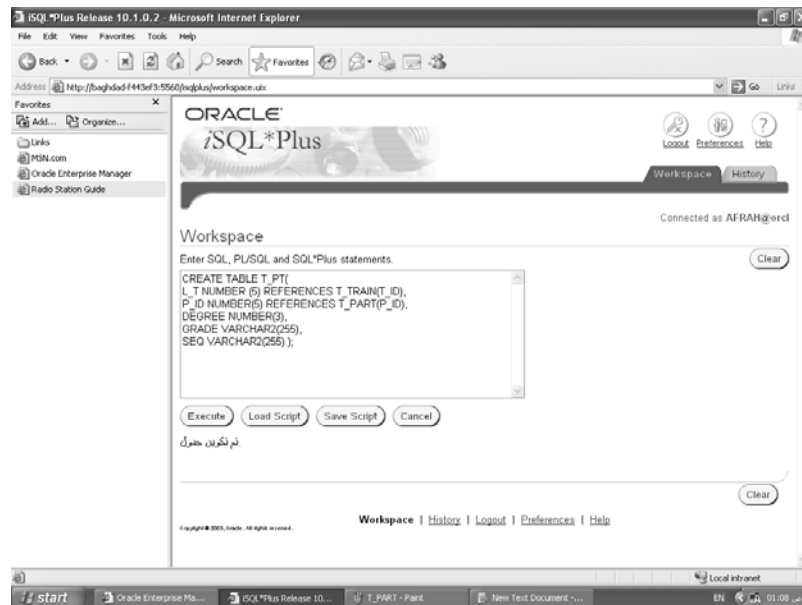


Fig. (6) : Shows the Designing of Training Courses Results Table

Chapter Three

Practical Part

In this chapter, we review the composition and the introduction of interfaces specific information table was created using Oracle Developer 6.0 Form Builder as shown in Figure (7).



Fig (7): shows the Access to the Form Builder to Design Interfaces

Then the welcome window will appear (Welcome to Form Boulder) (Fig. 8) which include several choices and we will select (Use the Data Block Wizard).

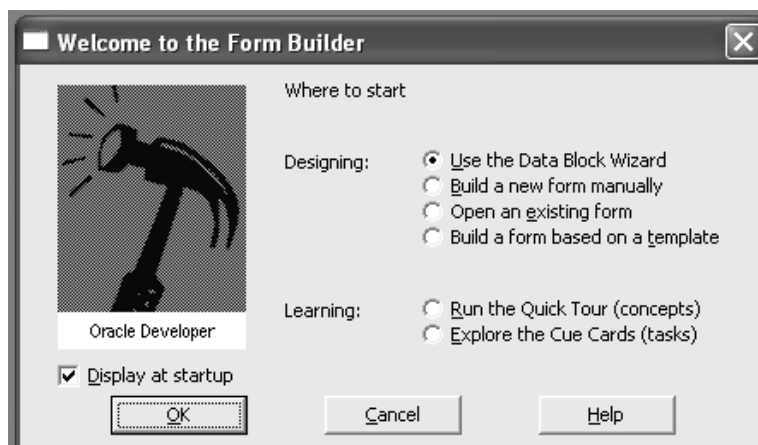


Fig. (8) Shows Welcome to the Form Builder Window

When we pressed the (Browse Command), connect window will appear to enter the username and password for that user, as shown in Figure (8 - a).

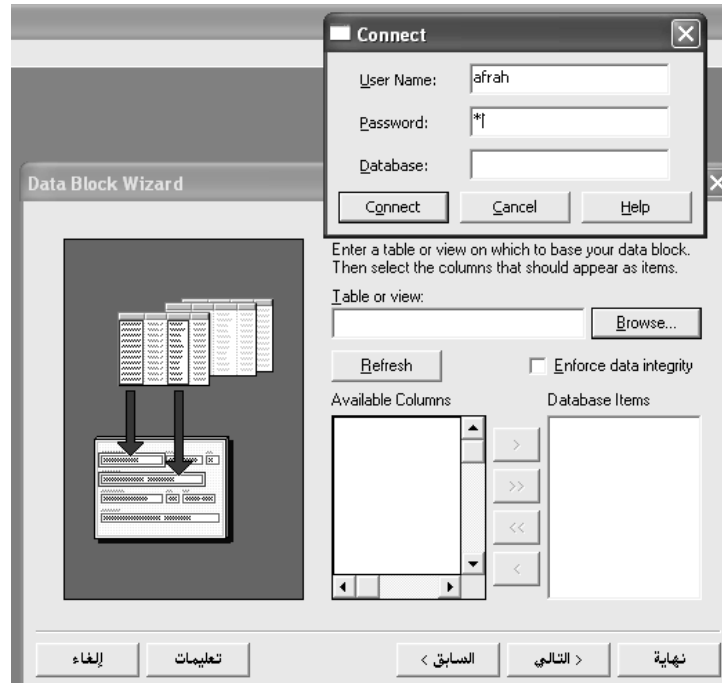


Figure (8 - a): Shows the Window Enter Username and Password

then we choose first table (training course table) from the list of tables that shown in Figure (8 - b).



Figure (8 - b) Shows the User Tables

then we choose all the fields in the table that will be displayed in the interface and then pressing the end command as shown in Figure 8 (- c).

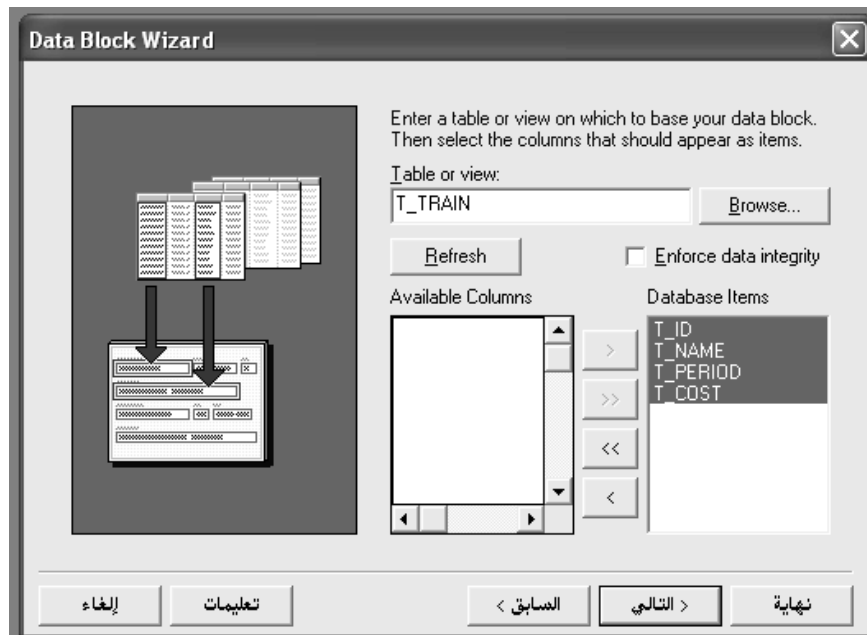


Figure (8 - c) Shows the Selection Table Fields that will Appear in the Interface and then Click End Command to Close the Wizard

then (Wizard Layout) window will appear and we begin to change the prompts of each filed title to the Arabic Language and according to their appearance in the interface as shown in Figure (8 - d).

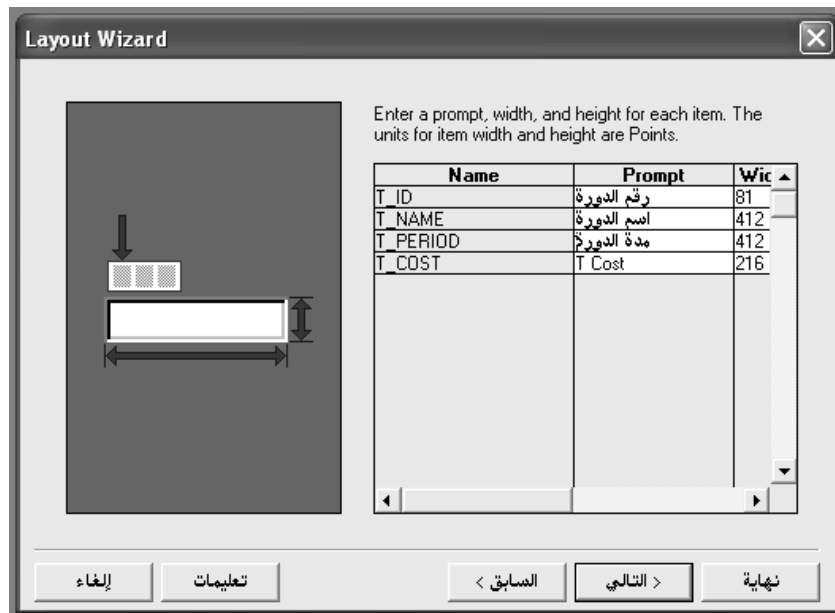


Figure (8 - d) Shows the Prompts of Each Filed Title to the Arabic Language

then we choose how to display fields in the form either Form or Tabular and finally end the (Layout Wizard) from the end command and the interface will appear and we rearranged them in order as shown in Figure (8 - e) and Figure (8 - f).

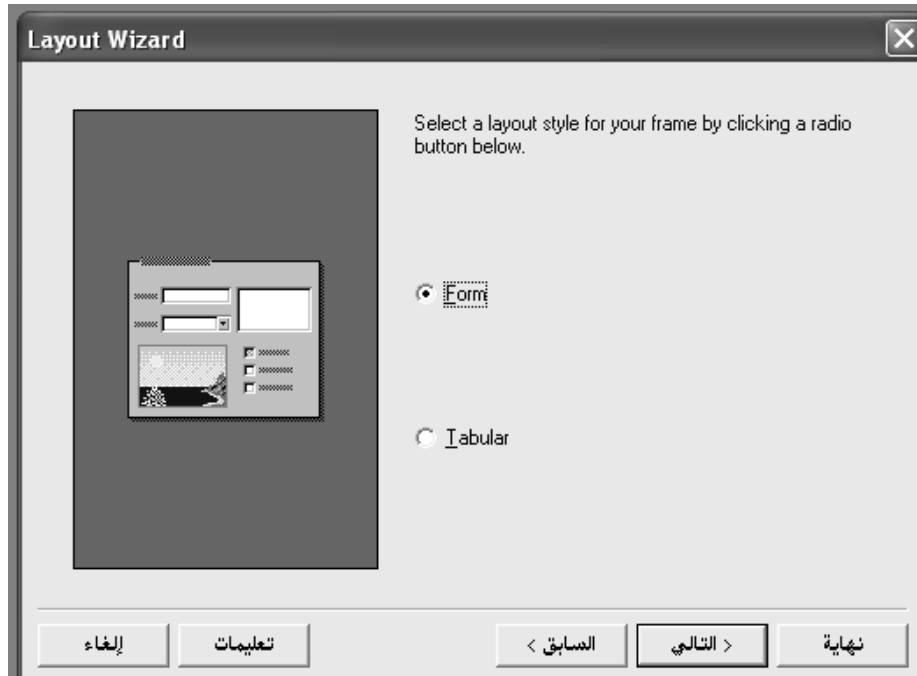


Figure (8 - e) shows the view of the fields in the interface and ending Layout Wizard

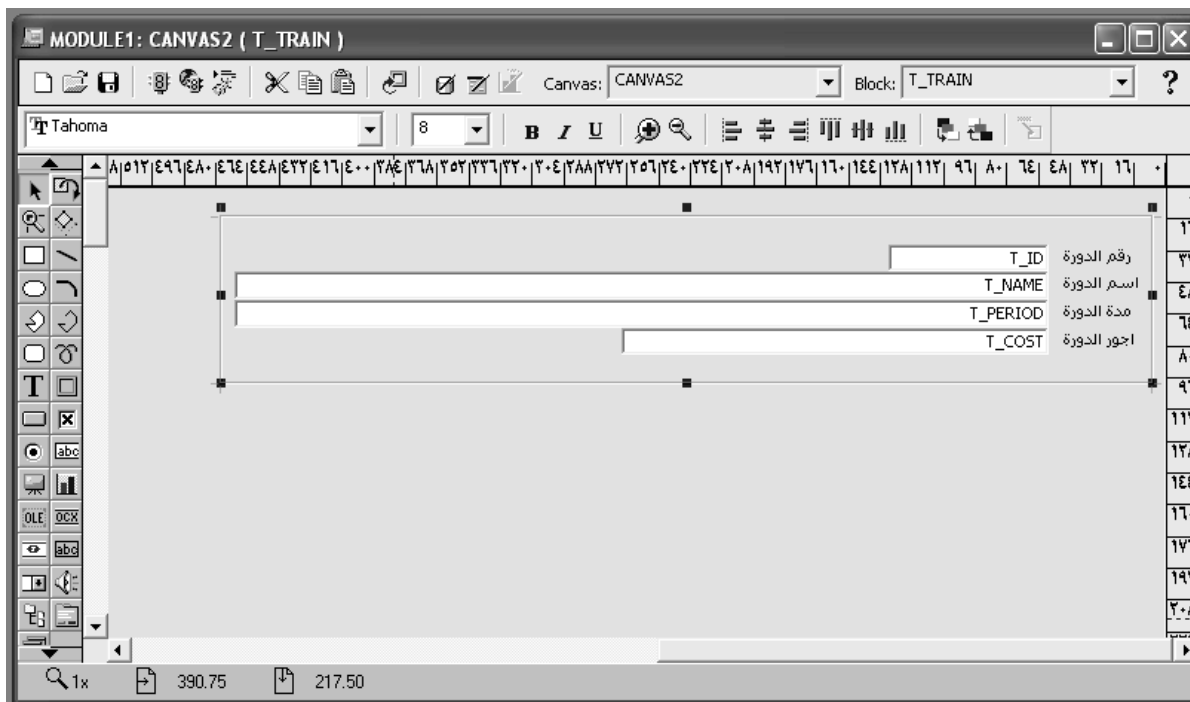


Figure (8 - f) Shows the Form after the Design

These steps are repeated for all tables.

We have thus designed the interfaces required for the system, namely:

1- Login Interface: to enter the system or get out of it, as shown in Figure (9).



Figure (9) shows the Interface Form

2- Main Interface :



Figure (10) : Shows the Main Interface of the System by which they can Move to Any of the Sub-Interfaces of the System.

From the figure above can go to:

1- Training Courses Interface:

This interface includes information of the training course that are: number of the training course, training course name, duration and the cost of participation, as shown in Figure (11).



Fig (11): Shows the Training Courses Interface

2- **Lecturers Interface:** this interface includes a lecturer number, list of lecturer's name, academic degrees, specialization in the training courses, and the international certificates as shown in Figure (12).



Fig (12): Shows the Lecturer's Information Interface

3- Customize Training Course Interface: which includes a list of training courses, a list of lecturers and assistants names, time training course and number of the room as shown in Figure (13).

The screenshot shows a software window titled 'مشغل نماذج مطور أوراكل' (Oracle Model Runner) with a toolbar. The main content area is titled 'تخصيص دورة' (Customize Training Course). It contains the following fields:

- التسلسل** (Serial): A text input field.
- اسم الدورة** (Course Name): A dropdown menu with 'Visual Basic' selected.
- المحاضر النظري** (Theoretical Lecturer): A dropdown menu with 'اسيل حسين علي' (Asil Hussein Ali) selected.
- تاريخ الدورة** (Course Date): A text input field.
- المحاضر العملي ١** (Practical Lecturer 1): A dropdown menu with 'لمى حسان' (Lami Hassan) selected.
- رقم القاعة** (Room Number): A text input field with '٥' (5) entered.
- المحاضر العملي ٢** (Practical Lecturer 2): A dropdown menu.
- وقت الدورة** (Course Time): A dropdown menu with '١١.٠٠ - ٩.٠٠' (11:00 - 9:00) selected.

At the bottom, there is a button labeled 'رجوع للواجهة الرئيسية' (Return to Main Interface) and a status bar showing 'سجل: 1/1'.

Fig (13): Shows the Customize Training Course Interface

4- Academic Certificates Lecturers Interface: shows the list of Academic Certificates to the lecturers listed in ascending order from Diploma to Doctoral degree above, as shown in Figure (14).

The screenshot shows a software window titled 'مشغل نماذج مطور أوراكل' (Oracle Model Runner) with a toolbar. The main content area is titled 'واجهة شهادات الأساتذة' (Academic Certificates Lecturers Interface). It contains a table with the following data:

الشهادة	الرقم
دبلوم	١
بكلوريوس	٢
دبلوم عالي	٣
ماجستير	٤
الدكتوراه	٥
فوق الدكتوراه	٦

At the bottom, there is a button labeled 'رجوع للواجهة الرئيسية' (Return to Main Interface).

Fig (14): Shows the Academic Certificates Lecturers Interface

5- Participants Interface: includes all the information for participants in training courses and the phenomenon in Figure (15).

The screenshot shows a web application window titled 'مشغل نماذج مطور أوراكل' (Oracle Developer Forms). The main heading is 'واجهة المتدربين'. The form contains the following fields:

رقم المشارك	١	اسم المشارك	محمد حسين عبد الله
جهة الترشيح	وزارة النفط / شركة توزيع المنتجات النفطية		
رقم كتاب الترشيح	٢٢	تاريخ كتاب الترشيح	٠٢/٠٢/٢٠١١
رقم كتاب المباشرة	٥٥	تاريخ كتاب المباشرة	٠٢/٠٢/٢٠١٠
رقم كتاب الانفكاك	٨٧	تاريخ كتاب الانفكاك	٢٠/٠٢/٢٠١٠
نوع التأييد	سيارة	رقم كتاب التأييد	٢٢
رقم كتاب التأييد	٢٢	تاريخ كتاب التأييد	٠٢/٠٢/٢٠١٠
نافذ من	٠٢/٠٢/٢٠١٠	نافذ لفاية	٢٠/٠٢/٢٠١٠
رقم السيارة	٢٢٢٢	نوع السيارة	برنس ٢٠٠١

At the bottom, there is a button labeled 'رجوع للواجهة الرئيسية' (Return to Main Interface).

Fig (15): Shows the Participants in Training Courses Interface

6- The Query for the Participants Interface: it is similar to the interface of participants in training courses, but it can query for any participant to show all information as shown in Figure (16).

The screenshot shows a web application window titled 'مشغل نماذج مطور أوراكل' (Oracle Developer Forms). The main heading is 'واجهة الاستعلام عن المتدربين'. The form includes a search section at the top with 'ادخل الاسم' (Enter name) and 'عدد الاشخاص' (Number of persons) set to ٢. Below this, the form displays details for a specific participant:

رقم المشارك	٥	اسم المشارك	نادية علي محمود
جهة الترشيح	وزارة المالية / الهيئة العامة للضرائب		
رقم كتاب الترشيح	١٠٢	تاريخ كتاب الترشيح	٠٨/٠٥/٢٠١٠
رقم كتاب المباشرة	٢٢٦	تاريخ كتاب المباشرة	١٠/٠٥/٢٠١٠
رقم كتاب الانفكاك	٢٣٩	تاريخ كتاب الانفكاك	٢٤/٠٥/٢٠١٠
نوع التأييد	شخصي	رقم كتاب التأييد	٢٣٠
رقم كتاب التأييد	٢٣٠	تاريخ كتاب التأييد	١٠/٠٥/٢٠١٠
نافذ من	١٠/٠٥/٢٠١٠	نافذ لفاية	٢٤/٠٥/٢٠١٠
رقم السيارة		نوع السيارة	

Fig (16): Shows the Query of Participants in Training Courses Interface

7- **Results Interface:** the results appear to participate in training courses, as shown in Figure (17).



Fig (17): Shows the Results Interface

8- **The Top Three on the Training Course Interface:** includes calculating the sequence of the top three for each course, as is shown in Figure (18).



Fig (18): Shows the Top Three on the Training Course Interface

Chapter Four

Experimental Results

In this chapter will show reports for each training course, which include:

- 1- A report listing the presence of the participants in the training course, as shown in Figure (19).

تواقيع الطلبة			
رقم الدورة	٢	اسم الدورة	Visual Basic
المدة	عشرة ايام	الوقت الساعه	١١,٠٠ - ٩,٠٠
رقم القاعة	٢		
Page 1			
مشارك	اسم المشارك	جهة الترشيح	التوقيع
٢	صلاح محمد حاسم	وزارة العلوم والتكنولوجيا / معهد التدريب	
٣	علي حسين عبد الحجار	وزارة الصحة / دائرة صحة بغداد	
٤	جعفر صادق محمد	امانة بغداد / دائرة المنسارح	
٥	نادية علي محمود	وزارة المالية / الهيئة العامة للضرائب	
٦	نور عادل رشوان	وزارة تجارة / الشركة العامة لتجارة الحبوب	
٧	ريم فليس محمد	وزارة التخطيط / الجهاز المركزي للإحصاء	
٤	جعفر صادق محمد	امانة بغداد / دائرة المنسارح	
٦	محمد حسين عبد الله	وزارة النفط / شركة توزيع المنتجات النفطية	
٦	محمد حسين عبد الله	وزارة النفط / شركة توزيع المنتجات النفطية	
٩			

Fig (19): Shows the lists of presence of the participants in the training course

- 2- A report listing the names of the participants in the training course with the results of their participation and the sequence of the top three of each training course, as shown in Figure (20).

نتائج دورة				
Page 1				
دورة	٢	اسم الدورة	Visual Basic	تاريخ الدورة
				٢٠١٠/٠٢/٠٢
رقم المشارك	اسم المشارك	الدرجة	التقدير	التسلسل
١	محمد حسين عبد الله	٥٥	مقبول	
١	محمد حسين عبد الله	٧٧	جيد	الثاني على الدورة
٢	صلاح محمد حاسم	٢٢	ضعيف	
٣	علي حسين عبد الجبار	٢٢	ضعيف	
٤	جعفر صادق محمد	٦٦	متوسط	الثالث على الدورة
٤	جعفر صادق محمد	٧٧	جيد	الثاني على الدورة
٥	نادية علي محمود	٨٨	جيد جدا	الاول على الدورة
٦	نور عادل رشوان	٧٧	جيد	الثاني على الدورة
٧	ريم فليس محمد	٨٨	جيد جدا	الاول على الدورة

Fig (20): The report of the results of the training course with the calculated sequence

References

1- كيف تبدأ في تعلم الأوراكل للمبتدئين، موقع على الانترنت <http://www.araboug.org/ib/index.php?showtopic=13003>

2- تعلم اوراكل بالعربية ، موقع على الانترنت <http://www.boosla.com/showArticle.php?Sec=DB&id=15>

3- سلسلة تعلم اوراكل بسهولة، كتاب الكتروني ، موقع على الانترنت <http://www.kutub.info/library/book/245>

4- PL/SQL User's Guide and Reference, http://download.oracle.com/docs/cd/B19306_01/appdev.102/b14261.pdf

Appendix 1 Codes of Project

Code of Lecturer number in the Lecturer Interface

```
declare
    x number(2);
begin
    select max(L_NO) into x from T_Lecturer;
    if x is null then x:=1;
    else x:=x+1;
    end if;
    :L_no :=x;
end;
```

Code of lecturer number in Customizing course interface

```
declare
    x number(2);
begin
    select max(L_t) into x from T_Lte;
    if x is null then x:=1;
    else x:=x+1;
    end if;
    :L_t :=x;
end;
```

Code of participant's number in query participant Interface

```
declare
    x number(2);
begin
    select max(P_id) into x from t_pt;
    if x is null then x:=1;
    else x:=x+1;
    end if;
    :P_id :=x;
end;
```

Code of participant's number in participant Interface

```
declare
    x number(10);
begin
select max(p_id) into x from T_part;
if x is null then x:=1;
else
    x:=x+1;
end if;
:p_id:=x;
end;
```

Code of seq in Result Interface

```
declare
    x number(10);
begin
    select max(seq) into x from t_pt where l_t=:l_t;
    if x is null then x:=0; end if;
    x:=x+1;
    :seq:=x;
end ;
```

Code of computing grade in result Interface

```
If (:degree>=90 and :degree<=99) then :grade := 'امتياز';
elseif(:degree>=80 and :degree<=89) then :grade := 'جيد جدا';
elseif(:degree>=70 and :degree<=79) then :grade := 'جيد';
elseif(:degree>=60 and :degree<=69) then :grade := 'متوسط';
elseif(:degree>=50 and :degree<=59) then :grade := 'مقبول';
else :grade:= 'ضعيف';
end if;
```

Code of computing top three degrees in result Interface

```
declare
    x1 number(10);
    y1 number(10);
    x2 number(10);
    y2 number(10);
    x3 number(10);
    y3 number(10);
```

```

cursor cur (vv number) is select seq,degree from t_pt where degree=(select max(degree)
from t_pt)and l_t=vv;
rec cur%rowtype;
deg1 number(10);

```

```

-----
cursor cur2 (vv number,vv2 number) is select seq,degree from t_pt where degree=(select
max(degree) from t_pt where degree<>vv2)and l_t=vv;
rec2 cur2%rowtype;
deg2 number(10);

```

```

-----
cursor cur3 (vv number,vv2 number,vv3 number) is select seq,degree from t_pt where
degree=(select max(degree) from t_pt where degree<>vv2 and degree<>vv3)and l_t=vv;

rec3 cur3%rowtype;

```

```

begin
    open cur(:l_t);
    fetch cur into rec;
    while cur%found loop
        update t_pt set rank = 'الاول على الدورة ' where seq=rec.seq and l_t=:l_t;
            deg1:=rec.DEGREE;
            fetch cur into rec;
        end loop;
    close cur;
    message('deg1= '||deg1);
    -----
    open cur2(:l_t,deg1);
        fetch cur2 into rec2;
        while cur2%found loop
            update t_pt set rank = 'الثاني على الدورة ' where seq=rec2.seq and l_t=:l_t;
                deg2:=rec2.DEGREE;
                fetch cur2 into rec2;
            end loop;
        close cur2;
        -----
        open cur3(:l_t,deg1,deg2);
            fetch cur3 into rec3;
            while cur3%found loop
                update t_pt set rank = 'الثالث على الدورة ' where seq=rec3.seq and l_t=:l_t;
                    --deg2:=rec2.DEGREE;
                    fetch cur3 into rec3;
                end loop;
            close cur3;
            commit_form;

```