

**MODELING AN ELECTRONIC MANAGEMENT SYSTEM USING ORACLE AND VB. NET AS A SAMPLE E-GOVERNANCE APPLICATION****Waseem Saad Nsaif***

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DOI: 10.5281/zenodo.59947**KEYWORDS:** electronic management, Visual Basic.NET, Oracle, Database.**ABSTRACT**

The concept of electronic management is a new methodology based on the overall absorption and the use of conscious and positive investment for information and communications technologies in the practice of the basic functions of administration at the various organizational levels in contemporary organizations. The information, management systems and electronics technologies are playing an active role in the contemporary world, which is characterized by being dependent on information and communication-intensive techniques until become the age of E, relative to the Electronic, and find this a clear slogan put forward by the "Fortune Company" (Be electronically or eaten), which is an electronic organization working in the fields business. In this research, proposed programming a managerial electronic system by using Oracle and Visual Basic .NET, to be as a sample programming, which can be taken as a building block, to build an integral electronic management system. Why use oracle, because Oracle is not a programming language, but rather a relational database, it is a system to manage relational databases RDBM and business information management required, by turning them into practical database, it's useful in decision-making, monitoring business performance, improve productivity and reach a maximum speed of doing business. Why use Visual Basic .NET, because Visual Basic suitable for database applications, and for the customized applications for small businesses and programs accounts, it is convenient, easy and serve their purpose, in addition, it allows the programmer to focus on solving the problem, and he often does not face technical difficulties while writing program.

INTRODUCTION

The electronic management is a combined electronic system aims to transform the ordinary manual management to the electronic management by using computer, drawing on the powerful information systems that Assistance in the administrative decision-making as soon as possible and at the lowest cost.[5] Electronic management system removed dependency on specific persons, and introduces transparency in the system's work. Representations easily considering static information, like relationship and data structure. Particular conceptual model should define to symbolize multi-dimensional data.[1] The most important Oracle characteristics are confidential information, Where offered system to protect the information, that outperform from the structural side on other systems for companies compete. And deal with the large volume of data up to millions of megabytes. Oracle also provided excellent support to the users over the world through its website. The most important Visual Basic.Net Features are easy and quick language to create Windows applications, it supports object-oriented programming, but that this is not fully, ease discovery of program errors, dependence on HTML that making it easy to use and understand, when write the correct orders it gives examples that confirm the validity of writing code and it enables to skip some of the mistakes when writing specific code. In this research will explain the steps to build and to link Oracle SQL *plus with Visual Basic.Net 2008, to model the electronic management system, and explain the steps to build the Oracle database, then show the steps to design the program interfaces Visual Basic.net 2010, then the steps of writing programmatic code to activate the program work.

ELECTRONIC MANAGEMENT (E-GOVERNANCE APPLICATIONS)

There are a number of justifications and reasons that push governments to the pursuit of e-governance applications such as:

- a) Acceleration of technological and knowledge revolution that has imposed itself on the various areas of human life.
- b) Openness and integration between human societies, the openness created by the globalization of the media through the technological revolution.



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- c) Shifting towards to e-learning, and the emergence of what called by the smart schools that require the computerization of all operations within these schools, including the administrative aspects
- d) Governments were under pressured continually by the citizens and the beneficiaries in general in order to meet the increasing demands on educational services, because of the growing population, and the desire to improve the quality of service, speed up the completion of administrative services relating to educational institutions, and take off routines and bureaucracy.
- e) Use of technological development and the reliance on information technology in management decisions.
- f) Current employment conditions that require advanced administrative work and understand the new technology and how to handle them, and adapt them in resolving administrative problems effectively.
- g) The increasing number of human powers working, which requires the presence of an electronic system easier to deal with them.
- h) Despite of the side effects resulting from the use of modern technologies,[2] but it has very become necessary to use.

METHODOLOGY

The proposed method and practical results:

Database design

Oracle is not a programming language, but rather a relational database, it is a system to manage relational RDBM databases and business information management required by turning them into practical useful in decision-making and monitoring work and improve productivity performance and reach a maximum speed of doing business database. New and improved features in Access 2010 simplify the steps to creating a database by enabling you to add application parts that include ready-made tables and forms.[3] To create a new user in the environment (sql * plus) are as the general formula: `create user [user name] identified [password];`

Do not allow the creation of user and giving the permission only after you connect to the system, it is connecting to the system and to any user as the following: `SQL> connect [user name] or SQL> conn [user name].`

Given the permission to communicate with the other of the permissions of the user using the following formula: `SQL> Grant connect,resource to [user name].`

The authority awarded with the following words: Grant succeeded.
Then make a table as the following example:

```
SQL> select * from employee;
```

EMPNO	EMPNAME	S	BDATE	SALARY
222	mohamed	m	01/01/83	1400
333	heba	f	02/03/87	1300
444	gmal	m	02/03/87	1300
111	ahmed	m	06/04/86	1500

Then the order of the table with this formula:

```
SQL> select * from employee order by empno;
```

EMPNO	EMPNAME	S	BDATE	SALARY
111	ahmed	m	06/04/86	1500
222	mohamed	m	01/01/83	1400
333	heba	f	02/03/87	1300
444	gmal	m	02/03/87	1300



Now the table is ready to connect with VB.Net.

Interfaces design

Electronic system should support the electronic management.[4] To create the program interface, run the Visual Basic 2008,[6][7] then choose a new project from file and give the name of the project, then determined the place to store the project in the computer. As show in illustrate image (1).

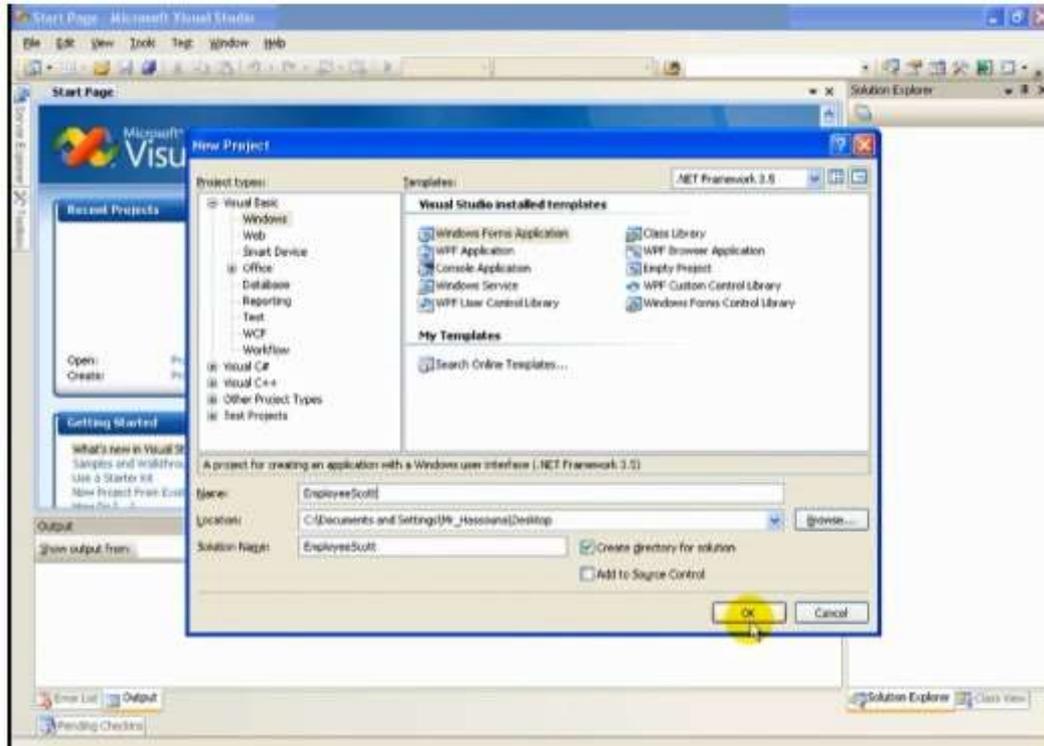


Image (1) given project name and saving

The program opens a new form, change the form name and adjust the settings, as show in illustrate image (2).

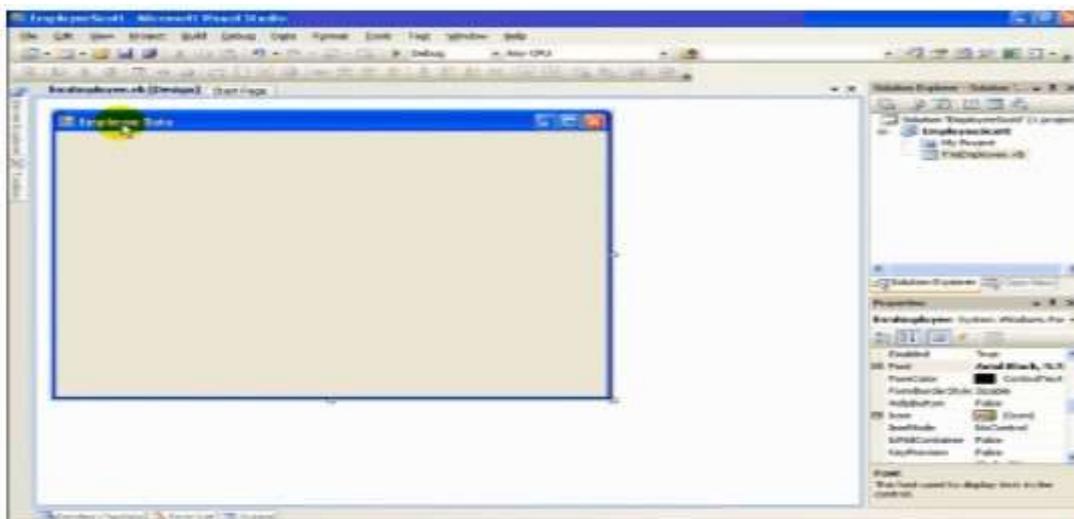


Image (2) open a new form, change the form name and adjust the



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Then adding the necessary tools for the program work from the Toolbar, add the tool "tool strip" to the form to place a toolkit inside it tidily, then adjust the tool strip setting by adding buttons, as show in illustrate image (3).

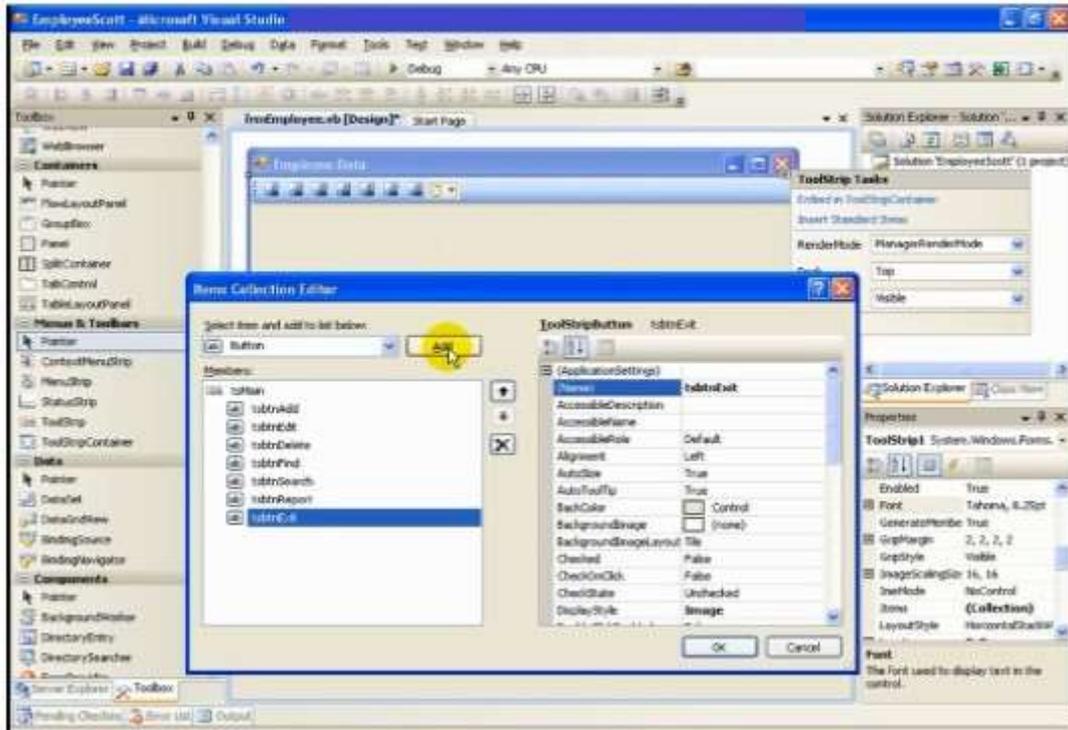


Image (3) adjust the "tool strip" setting and add buttons

Then adjust these buttons and put pictures and names to illustrations their tasks, as show in illustrate image (4).

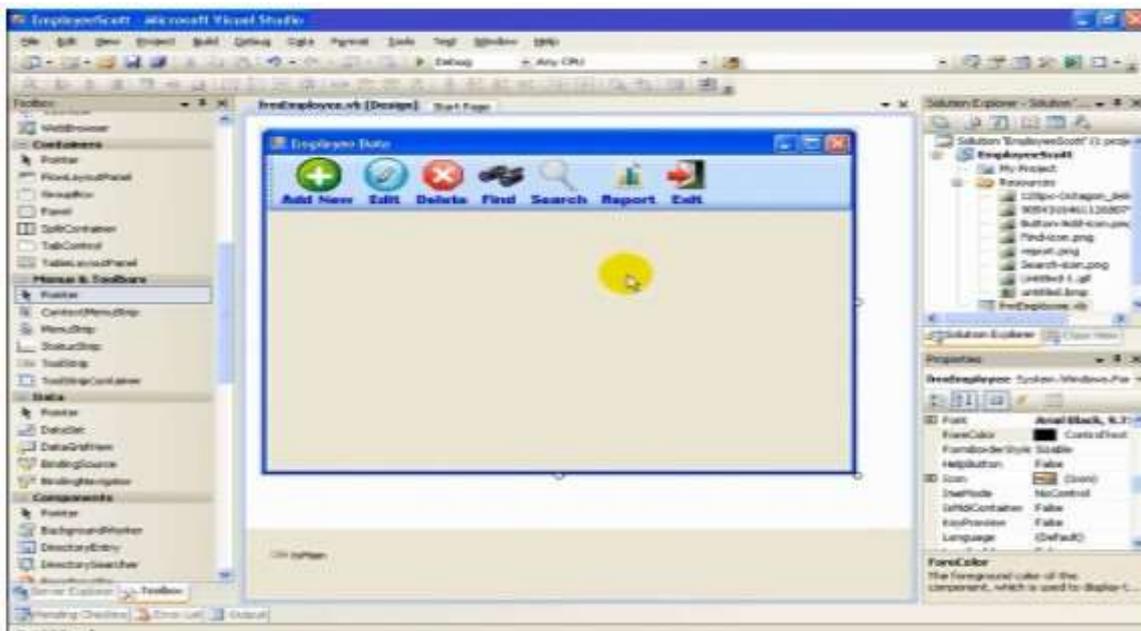


Image (4) adjust the buttons and put pictures and names to illustrations their tasks.



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Then add “labels” to name the main program and the program operations, and then add the “TextBox” for the data entry, then add the “RadioButton” tool to identify the gender, then add the “NumericUpDown” tool to identify the births, also add Buttons tools to transform between the database records, With modified features to all the tools that be used, as show in the illustrate image (5).

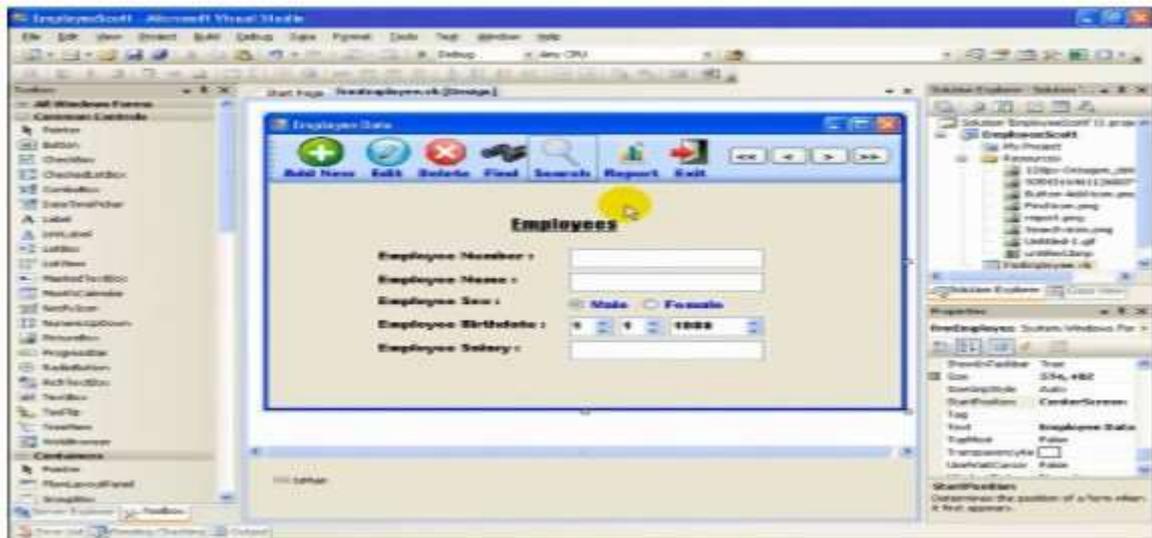


Image (5) add the tools and modified their features

CONNECT DATABASE WITH INTERFACE

To connect the database with the program interface, must import the database into the program interface, by double clicking on the main form in the VB.Net and writing in the events “General” and in the action “declarations” this code:

```
Imports System.Data.OleDb
```

Then have to call the database by provide the database address, by double clicking on the main form in the VB.Net and writing in the events “frmEmployee” Public Class frmEmployee, the action is “declarations” this code:

```
Dim conn As New OleDbConnection(" provider=MSDAORA;DataSource=orcl;User ID=admin;Password=123abc ")
```

“Conn” variable can only open or close database. To take the first name from the database and distribute its information on to their places in the VB.Net form, to do this have to declare two other variables beside Conn variable by writing in the events “frmEmployee” Public Class frmEmployee, the action is “declarations” this code:

```
Dim cmd As New OleDbCommand()  
Dim tbl As New DataTable()  
Dim intRow As Integer = 0
```

And in the events “frmEmployee” Public Class frmEmployee, the action is “declarations”, also to active the transform buttons (first, next, previous, last), have to write correctly these codes:



```

Private Sub showdata()
    tbl.Clear()
    cmd.Connection = conn
    cmd.CommandText = "select * from employee by empno"
    conn.Open()
    tbl.Load(cmd.ExecuteReader())
    conn.Close()
    txtEmpNo.text = tbl.Rows(intRow)(0)
    txtEmpName.text = tbl.Rows(intRow)(1)
    Dim gander As String = tbl.Rows(intRow)(2)
    If gander = "F" Then rbtnFemale.checked = True
    If gander = "M" Then rbtnMale.checked = True
    Dim bdate As Date = tbl.Rows(intRow)(3)
    nudDay.value = bdate.day
    nudMonth.value = bdate.month
    nudYear.value = bdate.year
    txtSalary.Text = tbl.Rows(intRow)(4)
End Sub
Private Sub frmEmployee_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    showdata()
End Sub
End Class

```

For programming the “toolstrip” instruction buttons (add, edit, delete, find, search, report, and exit) to work with the database:

To add new records by the add button in the interface program, have to write this code:

```

Private Sub ToolStripBtnAdd_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles ToolStripBtnInsert.Click
    Try
        Dim cmdinsret As New OleDbCommand
        cmdinsret.Connection = conn
        cmdinsret.CommandText = "insert into employee values ('" + TextBox1.Text + "','" + TextBox2.Text + "','" +
RadioButton1 + "','" + RadioButton2 + "','" + NumericUpDown1 + "','" + NumericUpDown2 + "','" + textbox3.text+','" '
        cmdinsret.ExecuteNonQuery()
        MsgBox("insert done")
        TextBox1.Clear()
        TextBox2.Clear()
        RadioButton1.Capture = (" ")
        RadioButton2.Capture = (" ")
        NumericUpDown1.Value = " "
        NumericUpDown2.Value = " "
        TextBox3.Clear()
    Catch ex As Exception
        MsgBox(ex.Message.ToString)
    End Try
    conn.Close()
End Sub

```

To edit record by the edit button in the interface program, I choose write this code:



```

Private Sub ToolStripBtnUpdate_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
ToolStripButton3.Click
    conn.Open()
    Try
        Dim cmdupdate As New OleDbCommand
        cmdupdate.Connection = conn
        cmdupdate.CommandText = " UPDATE tbl1 SET D_ID = '" + TextBox1.Text + "', name = '" + TextBox2.Text + "'"
        cmdupdate.ExecuteNonQuery()
        MsgBox(" update done")
    Catch ex As Exception
        MsgBox(ex.Message.ToString)
    End Try
    conn.Close()
End Sub

```

To search a record by the search button in the interface program, have to write this code:

```

Private Sub ToolStripBtnsearch_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
ToolStripButton4.Click
    conn.Open()
    Try
        Dim cmdselect As New OleDbCommand
        cmdselect.Connection = conn
        cmdselect.CommandText = " select * from employee where Dov_ID = '" + TextBox1.Text + "' or name = '" + TextBox2.Text + "'"
        Dim re As OleDbDataReader
        rg = cmdselect.ExecuteReader
        If re.Read Then
            TextBox1.Text = re(0)
            TextBox2.Text = re(1)
            RadioButton1.Capture = re(" ")
            RadioButton2.Capture = re(" ")
            NumericUpDown1.Value = re(" ")
            NumericUpDown1.Value = re(" ")
        Else
            MsgBox(" not exist ")
        End If
    Catch ex As Exception
        MsgBox(ex.Message.ToString)
    End Try
End Sub

```

One word code to close the program by the exit button:

```

Private Sub ToolStripBtnExit_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
ToolStripButton7.Click
    End
End Sub

```

**CONCLUSIONS AND RECOMMENDATIONS****Conclusions**

Electronic management system depends on the organization by using electronic means to conduct their transactions and communicate with their clients or beneficiaries of their services, or communication between the employees and the regulatory authorities, in order to facilitate the implementation of administrative, regulatory business by commensurate with the development in the field of information technology. The e-governance is characterized by the following tags results:

- Administrative process the benefit from the outstanding potential of the Internet, which achieves high-speed in the completion of administrative processes remotely.
- It depends on the transition from manual management of things to the digital management.
- It means moving from a hierarchical organization to a grid organization.
- Non-compliance with the limits of time or place.
- Rely on smart management information systems, using computerized systems and technologies include the ability to think and vision, learning and understanding and the development of the significance of general context of the produced information.
- Transition from centralized to decentralized work and to a flexible organizational structures that based on the information, and work through work teams, not by the person that no matter how his genius.

After all, it could be argued that the main objective of electronic management is to improve the quality of services provided to beneficiaries in general, and assisting the organization to computerize its operations in accordance with achieving the objectives of the community.

Recommendations

Must encourage all segments of society to access e-management regardless of their physical abilities or presence locations, through design and develop of applications that suit all categories, including the disabled, and issuance the legislations and laws that stimulate for government and private institutions to adopt advanced technology to assistance citizens.

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