Topics: GUI – MFC Application

In this lab session, you will learn about GUI API and basic MFC Dialog Window

Creating the Dialog Window
1. Open Microsoft Visual Studio
2. Click the menu item File >> New >> Project...
3. In the 'New Project' Window, select
   a. Project Types: Visual C++ Projects
   b. Templates: MFC Application
   c. Select a Name and Location for the application. (We will name ours LAB10 inside a project created folder)
4. In the 'MFC Application Wizard' window,
   a. Under Application Type select
      1. Dialog Based
      2. MFC Standard
      3. Use MFC in a shared DLL
   b. Under User Interface Features: un-check all boxes
   c. Under Advanced Features: un-check all boxes
   d. Click Finish
5. In the Visual Studio project window, click
   a. Build >> Build Solution
   b. Debug >> Start to run

Clean Up UI Window
1. (Inside the VS Project Window) Click the menu item View >> Resource View
2. Double-Click on "IDD_LAB10_DIALOG" to bring up the MFC Resource Editor
3. Select the main application window by Left-Mouse-Button click in the window
4. Bring up the Properties window for the main application window (With main application window selected, Right-Mouse-Button click » Properties), change
   a. Caption to "Example1"
5. Left-Mouse-Button click to select and Right-Mouse-Button click to bring up the pop-up menu for "TODO: ..." text box, "OK" button, and “Cancel” button, click Delete

Add a Button
1. Click and drag the Button from Toolbox to the bottom right of the dialog. Change
   a. Caption to “Quit”
   b. ID to IDC_QUIT
2. Double click on Quit button
3. Inside void CLab10Dlg::OnBnClickedQuit() function

```cpp
exit(0);
```

4. Click and drag the Button from Toolbox to the center of the dialog. Change
   a. Caption to “Click Me”
   b. ID to IDC_CLICKME
5. Click and drag the Static Text from Toolbox below the Click Me button. Change
   a. ID to IDC_DISPLAYOUTPUT
   b. Caption to “Guess What”
6. Double click on Click Me button
7. Inside `void CLab10Dlg::OnBnClickedClickme()` function

```cpp
SetDlgItemText(IDC_DISPLAYOUTPUT, L"Hello World");
```

In the Visual Studio project window, click
a. Build >> Build Solution
b. Debug >> Start to run

text field
Add a new MFC Application project to the current solution. Name it as Example2. Clear all the default tools.
1. Click and drag the Button from Toolbox to the bottom right of the dialog. Change
   a. Caption to “Quit”
   b. ID to IDC_QUIT
2. Double click on Quit button
3. Inside `void Cexample2Dlg::OnBnClickedQuit()` function

```cpp
exit(0);
```
4. Click and drag the Edit Control from Toolbox to the left side of the dialog. Change
   a. Number to True
   b. ID to IDC_NUM1
5. Click and drag the Edit Control from Toolbox to the bottom of IDC_NUM1. Change
   a. Number to True
   b. ID to IDC_NUM2
6. Click and drag the Edit Control from Toolbox to the bottom of IDC_NUM2. Change
   a. Number to True
   b. ID to IDC_RESULT
   c. Read Only to True
7. Click and drag the Button from Toolbox to the center of the dialog. Change
   a. Caption to “+”
   b. ID to IDC_ADD
8. Double click on + button
9. Inside `void Cexample2Dlg::OnBnClickedAdd()` function

```cpp
int num1, num2, result;
num1 = GetDlgItemInt(IDC_NUM1);
num2 = GetDlgItemInt(IDC_NUM2);
result = num1+num2;
SetDlgItemInt(IDC_RESULT, result);
```

In the Visual Studio project window, click
a. Build >> Build Solution
b. Debug >> Start to run

**Exercise 1**
You need to continue this example by adding another one button to perform subtraction operation.

**Radio Button**
Add a new MFC Application project to the current solution. Name it as Example3. Clear all the default tools.
1. Click and drag the Button from Toolbox to the bottom right of the dialog. Change
   a. Caption to “Quit”
   b. ID to IDC_QUIT
2. Double click on Quit button
3. Inside `void Cexample2Dlg::OnBnClickedQuit()` function
exit(0);

4. Click and drag the Static Text from Toolbox to the left side of the dialog. Change
   a. Caption to Choose:
   b. ID to IDC_CHOOSE
5. Click and drag the Radio Button from Toolbox to the right side of the IDC_CHOOSE.
   Change
   a. Caption to Female
   b. ID to IDC_FEMALE
6. Click and drag the Radio Button from Toolbox to the bottom side of the
   IDC_FEMALE. Change
   a. Caption to Male
   b. ID to IDC_MALE
7. Click and drag the Button from Toolbox to the bottom side of the IDC_MALE.
   Change
   a. Caption to Gender
   b. ID to IDC_GENDER
8. Click and drag the Static Text from Toolbox to the bottom side of the
   IDC_GENDER. Change
   a. Caption to “The chosen gender is...”
   b. ID to IDC_OUTPUT
9. Double click on Gender button
10. Inside void Cexample3Dlg::OnBnClickedGender() function
    
    ```cpp
    CButton* femaleButton = (CButton*)GetDlgItem(IDC_FEMALE);
    CButton* maleButton = (CButton*)GetDlgItem(IDC_MALE);
    if(femaleButton -> GetCheck())
    {
        SetDlgItemText(IDC_OUTPUT, _T("I choose female"));
    }
    else if(maleButton -> GetCheck())
    {
        SetDlgItemText(IDC_OUTPUT, _T("I choose male"));
    }
    ```

In the Visual Studio project window, click
a. Build >> Build Solution
b. Debug >> Start to run
Assignment 3
Create an electricity bill calculator application. This calculator will get the number of electric consumption in kWh. Then this calculator will calculate and produce the charges for that month based on the group of customer chosen by the user. The tariff rate between the groups of customer as follows;
- Domestic customers: 31.66 cent/kWh
- Industrial customers: 36.15 cent /kWh
- Commercial customers: 47.92 cent /kWh
Save the detail of the calculation and the total amount to be paid into the file name it as bill.txt.

Your program must be written in MFC Application.

You are allowed to work in pair (maximum 2 students). The submission need to be done by one of the group members using email (softcopy document).

Remember not to share or let the other pair copy your codes. Any group who caught plagiarizes or copy from the other pair will be given zero (0) percent. Any late submission will not be accepted and will be rewarded zero (0) percent too.

Submission Date: 7 Sept. 2016, 5.00pm.