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1 #include<windows.h>
2 #include <stdio.h> // for swprintf_s()
3 #include "AutomationServerWithRegFile.h"
4 // global function declarations
5 LRESULT CALLBACK WndProc(HWND,UINT,WPARAM,LPARAM);
6 // global variable declarations
7 IMyMath *pIMyMath=NULL;
8 // WinMain
9 int WINAPI WinMain(HINSTANCE hInstance,HINSTANCE hPrevInstance,
10 LPSTR lpCmdLine,int nCmdShow)
11 {
12     // variable declarations
13     WNDCLASSEX wndclass;
14     HWND hwnd;
15     MSG msg;
16     TCHAR AppName[]=TEXT("ComClient");
17     HRESULT hr;
18     // code
19     // COM Initialization
20     hr=CoInitialize(NULL);
21     if(FAILED(hr))
22     {
23         MessageBox(NULL,TEXT("COM Library Can Not Be Initialized.\nProgram
24             Will Now Exit."),TEXT("Program Error"),MB_OK);
25         exit(0);
26     }
27     // WNDCLASSEX initialization
28     wndclass.cbSize=sizeof(wndclass);
29     wndclass.style=CS_HREDRAW|CS_VREDRAW;
30     wndclass.cbClsExtra=0;
31     wndclass.cbWndExtra=0;
32     wndclass.lpfnWndProc=WndProc;
33     wndclass.hIcon=LoadIcon(NULL,IDI_APPLICATION);
34     wndclass.hCursor=LoadCursor(NULL,IDC_ARROW);
35     wndclass.hbrBackground=(HBRUSH)GetStockObject(WHITE_BRUSH);
36     wndclass.hInstance=hInstance;
37     wndclass.lpszClassName=AppName;
38     wndclass.lpszMenuName=NULL;
39     wndclass.hIconSm=LoadIcon(NULL,IDI_APPLICATION);
40     // register window class
41     RegisterClassEx(&wndclass);
42     // create window
43     hwnd=CreateWindow(AppName,
44         TEXT("Client Of COM Dll Server"),
45         WS_OVERLAPPEDWINDOW,
46         CW_USEDEFAULT,
47         CW_USEDEFAULT,
48         CW_USEDEFAULT,
49         CW_USEDEFAULT,
50         NULL,
51         NULL,
52         hInstance,
53         NULL);
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53     ShowWindow(hwnd, nCmdShow);
54     UpdateWindow(hwnd);
55     // message loop
56     while(GetMessage(&msg, NULL, 0, 0))
57     {
58         TranslateMessage(&msg);
59         DispatchMessage(&msg);
60     }
61     // COM Un-initialization
62     CoUninitialize();
63     return((int)msg.wParam);
64 }
65 // Window Procedure
66 LRESULT CALLBACK WndProc(HWND hwnd, UINT iMsg, WPARAM wParam, LPARAM lParam)
67 {
68     // function declarations
69     void ComErrorDescriptionString(HWND, HRESULT);
70     void SafeInterfaceRelease(void);
71     // variable declarations
72     HRESULT hr;
73     int iNum1, iNum2, iSum, iSubtract;
74     TCHAR str[255];
75     // code
76     switch(iMsg)
77     {
78     case WM_CREATE:
79         hr=CoCreateInstance(CLSID_MyMath, NULL, CLSCTX_INPROC_SERVER,
80                             IID_IMyMath, (void **)&pIMyMath);
81         if(FAILED(hr))
82         {
83             ComErrorDescriptionString(hwnd, hr);
84             DestroyWindow(hwnd);
85         }
86         // initialize arguments hardcoded
87         iNum1=155;
88         iNum2=145;
89         // call SumOfTwoIntegers() of IMyMath to get the sum
90         pIMyMath->SumOfTwoIntegers(iNum1, iNum2, &iSum);
91         wsprintf(str, TEXT("Sum Of %d And %d Is %d"), iNum1, iNum2, iSum);
92         MessageBox(hwnd, str, TEXT("SumOfTwoIntegers"), MB_OK);
93
94         // call SumOfTwoIntegers() of IMyMath to get the sum
95         pIMyMath->SubtractionOfTwoIntegers(iNum1, iNum2, &iSubtract);
96         wsprintf(str, TEXT("Subtraction Of %d And %d Is %d"), iNum1, iNum2,
97                 iSubtract);
98         MessageBox(hwnd, str, TEXT("SubtractionOfTwoIntegers"), MB_OK);
99
100        // release
101        pIMyMath->Release();
102        pIMyMath=NULL; // make relesead interface NULL
103        // exit the application
104        DestroyWindow(hwnd);
105        break;
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105     case WM_DESTROY:
106         SafeInterfaceRelease();
107         PostQuitMessage(0);
108         break;
109     }
110     return(DefWindowProc(hwnd, iMsg, wParam, lParam));
111 }
112 void ComErrorDescriptionString(HWND hwnd, HRESULT hr)
113 {
114     // variable declarations
115     TCHAR* szErrorMessage = NULL;
116     TCHAR str[255];
117     // code
118     if (FACILITY_WINDOWS == HRESULT_FACILITY(hr))
119         hr = HRESULT_CODE(hr);
120
121     if (FormatMessage(FORMAT_MESSAGE_ALLOCATE_BUFFER |
122                     FORMAT_MESSAGE_FROM_SYSTEM, NULL, hr, MAKELANGID(LANG_NEUTRAL,
123                     SUBLANG_DEFAULT), (LPTSTR)&szErrorMessage, 0, NULL) != 0)
124     {
125         swprintf_s(str, TEXT("%s"), szErrorMessage);
126         LocalFree(szErrorMessage);
127     }
128     else
129     {
130         swprintf_s(str, TEXT("[Could not find a description for error # %
131         #x.]\n"), hr);
132     }
133     MessageBox(hwnd, str, TEXT("COM Error"), MB_OK);
134 }
135 void SafeInterfaceRelease(void)
136 {
137     // code
138     if(pIMyMath)
139     {
140         pIMyMath->Release();
141         pIMyMath=NULL;
142     }
143 }
```