

Static text, Button & Edit box Basic

Common controls

In this talk

1. Message mapping
2. Static text
3. Button
4. Edit

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Message mapping

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Preparation

- ❑ Search **windowsX.h**, add **include <windowX.h>**
- ❑ Location: Windows Kits > 10 > Include
- ❑ Copy this file to somewhere to backup
- ❑ Find mapping corresponding to one message
- ❑ For example WM_CREATE

```
/* BOOL Cls_OnCreate(HWND hwnd, LPCREATESTRUCT lpCreateStruct) */  
#define HANDLE_WM_CREATE(hwnd, wParam, lParam, fn) \  
    ((fn)((hwnd), (LPCREATESTRUCT)(lParam)) ? 0L : (LRESULT)-1L)  
#define FORWARD_WM_CREATE(hwnd, lpCreateStruct, fn) \  
    (BOOL)(DWORD)(fn)((hwnd), WM_CREATE, 0L, (LPARAM)(LPCREATESTRUCT)(lpCreateStruct))
```

Copy prototype and use

```
//Các khai báo hàm
ATOM MyRegisterClass(HINSTANCE);
BOOL InitInstance(HINSTANCE, int);
LRESULT CALLBACK WndProc(HWND, UINT, WPARAM, LPARAM);

void OnDestroy(HWND hwnd);
BOOL OnCreate(HWND hwnd, LPCREATESTRUCT lpCreateStruct);
void OnCommand(HWND hwnd, int id, HWND hwndCtl, UINT codeNotify);
```

```
LRESULT CALLBACK WndProc(HWND hWnd, UINT message, WPARAM wParam, LPARAM lParam)
{
    switch(message)
    {
        HANDLE_MSG(hWnd, WM_CREATE, OnCreate);
        HANDLE_MSG(hWnd, WM_COMMAND, OnCommand);
        HANDLE_MSG(hWnd, WM_DESTROY, OnDestroy);
        HANDLE_MSG(hWnd, WM_SIZE, OnSize);
        HANDLE_MSG(hWnd, WM_NOTIFY, OnNotify);
    }
}
```

Static text

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Basic operations

❑ **CreateWindow**(L("STATIC"), L("Fullname:"),
WS_CHILD | WS_VISIBLE | SS_CENTER,
400,100, 200, 40, hWnd,
NULL, hInstance, NULL)

SetWindowText(hText, buffer)

Button

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Basic operations

❑ **CreateWindow**(L("BUTTON"), L("Hello"),
WS_CHILD | WS_VISIBLE | BS_PUSHBUTTON
,100,100,100,40, hWnd,
(HMENU) ID_BUTTON1,
hInstance, NULL)

❑ Handle click event
WM_COMMAND

Edit box

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Basic operations

```
❑ CreateWindow(L("EDIT"), L("Le Van A"),  
    WS_CHILD | WS_VISIBLE |  
    WS_BORDER | ES_AUTOHSCROLL,  
    400,100,200,40, hWnd,  
    NULL, hInstance, NULL);
```

GetWindowTextLength(hText)

GetWindowText(hText, buffer, size)

SetWindowText(hText, buffer)

Visual styles

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Create file named app.manifest

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<assembly xmlns="urn:schemas-microsoft-com:asm.v1"
manifestVersion="1.0">
  <assemblyIdentity
    version="1.0.0.0"
    processorArchitecture="*"
    name="CompanyName.ProductName.YourApplication"
    type="win32"
  />
  <description>Your application description here.</description>
  <dependency>
    <dependentAssembly>
      <assemblyIdentity
        type="win32"
        name="Microsoft.Windows.Common-Controls"
        version="6.0.0.0"
        processorArchitecture="*"
        publicKeyToken="6595b64144ccf1df"
        language="*"
      />
    </dependentAssembly>
  </dependency>
</assembly>
```

Add to project, rebuild and see the difference!

Image

- ❑ Load image from file
- ❑ Obtain device context
- ❑ Draw using device context

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- ❑ `g_hbmBall =
LoadBitmap(GetModuleHandle(NULL),
MAKEINTRESOURCE(IDB_BALL));`

Code to draw

```
case WM_PAINT: {  
    BITMAP bm; PAINTSTRUCT ps;  
    HDC hdc = BeginPaint(hwnd, &ps);  
    HDC hdcMem = CreateCompatibleDC(hdc);  
    HBITMAP hbmOld = SelectObject(hdcMem, g_hbmBall);  
    GetObject(g_hbmBall, sizeof(bm), &bm);  
    BitBlt(hdc, 0, 0, bm.bmWidth, bm.bmHeight,  
           hdcMem, 0, 0, SRCCOPY);  
    SelectObject(hdcMem, hbmOld); DeleteDC(hdcMem);  
    EndPaint(hwnd, &ps);  
}
```

Home work

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Products price comparison

Estimated time: 4h

A friend of yours is going to travel though Singapore & Japan. You want to buy an iPad but don't know where should you ask him to buy for you.

Check Apple Store for the price

1. Input Price in Japan: 7800 JPY
2. Input Price in Singapore: 9800 SGD
3. Calculate and tell where should you buy, in Japan or Singapore?

Decide how you inform the result.

(Color? MessageBox? Status?)

Deliverables – Must have

- ❑ Source code
- ❑ Release (compiled exe)
- ❑ readme.txt
 - Your info (ID, Name, email)
 - What you have done?
 - Main flow (main success scenario when using the app)
Example: Fill **Fullname** textbox with "**Tran**", fill **Year** textbox with **1980**, click button **Calculate** to see the age is **36** in **Your age** textbox
 - Additional flow (Catch errors & exceptions)
Enter **2010** in **Year** textbox to see error message: "**Year cannot be greater than 1990**"

