

Windows 7 UX Programming with VC++

Agenda

- New Features in Windows7
- Ribbon Menu
 - API Overview &Architecture
 - XML Mark-up Syntax
 - Integration Your Application
- TaskBar
 - Thumbnail Toolbars
 - Overlay Icons
 - Progress Bars

Windows Web Services

TaskBar

Direct2D

Multi Core

Federated Search

Net 3.5 SP1

XPS Documents

Enhanced Graphics

Windows
Animation

DirectWrite

Ribbon Menu

Sensor

Native ISO burning

Gesture

calculator

Multi-touch

JumpList

Libraries

Microsoft® Office 2007 Ribbon

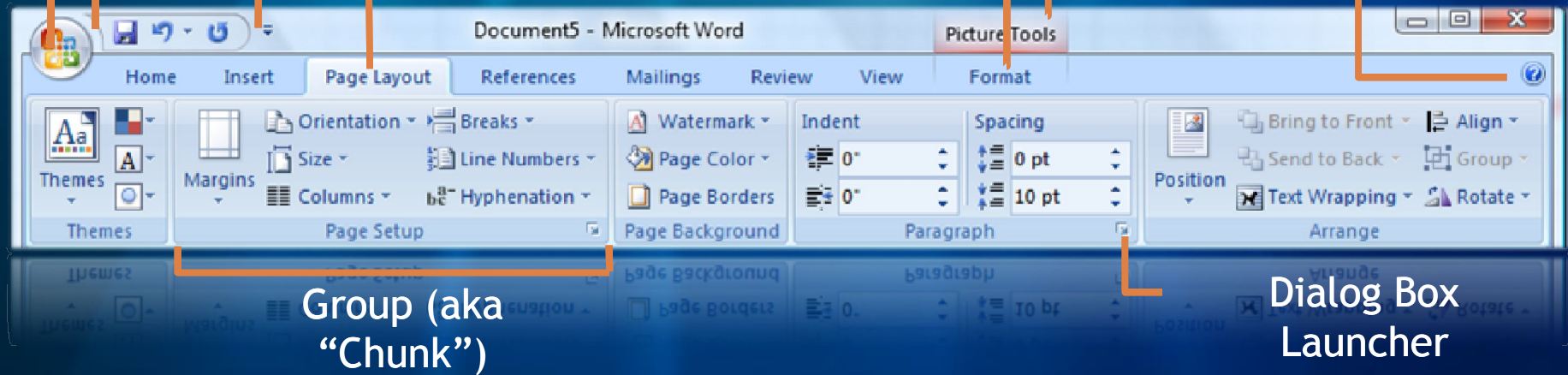
Office Button

Quick Access Toolbar

Tab

Contextual Tab Set

Help



Windows Ribbon

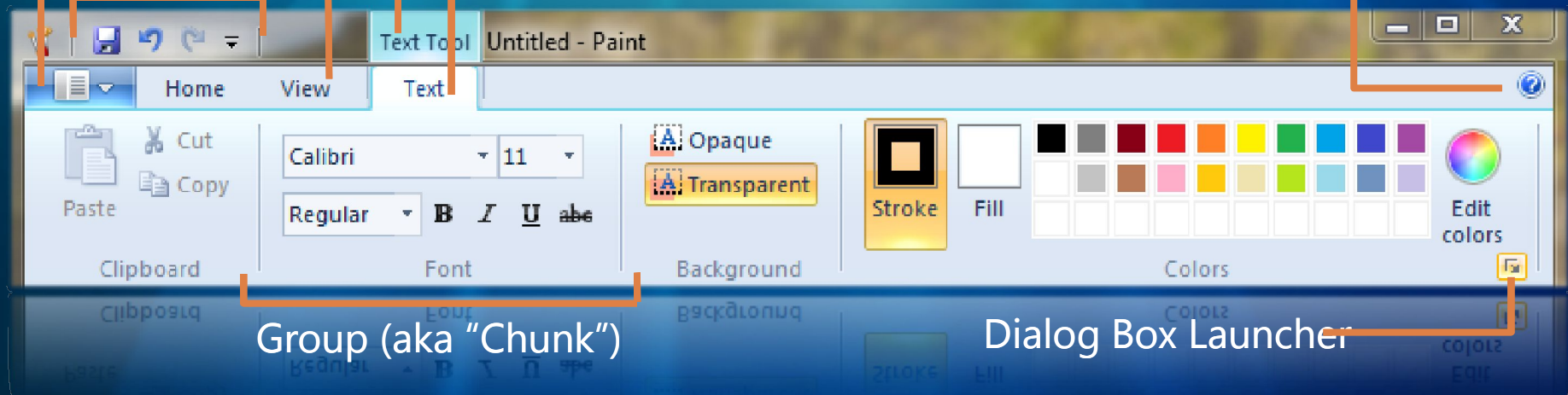
Application

Menu
Quick Access
Toolbar

Tab

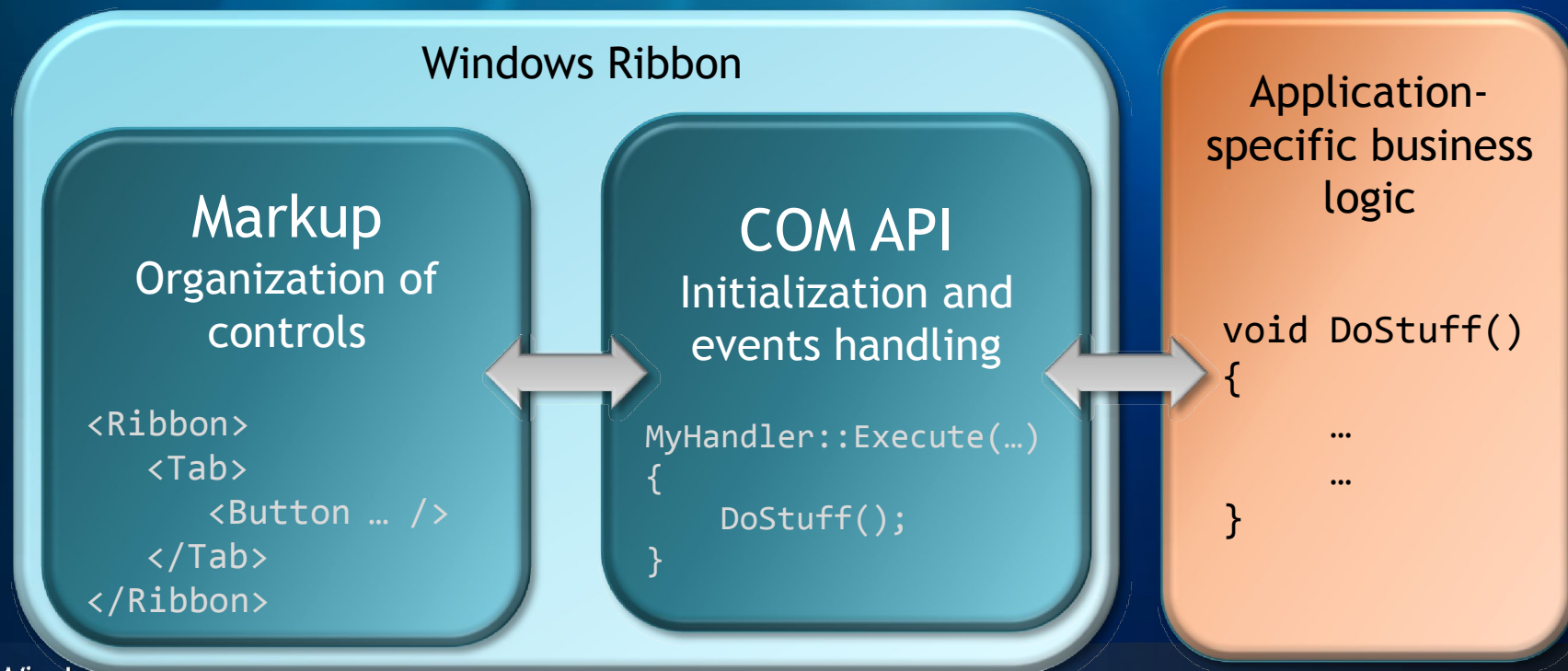
Contextual Tab Set
Contextual Tab

Help



Windows Ribbon API Architecture

- Strong Model-View-Controller separation
- Code and markup decoupling
- Small C++ API surface

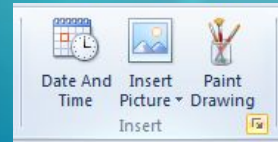
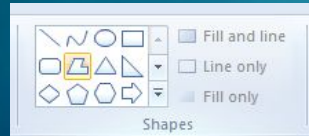


Windows Ribbon Controls

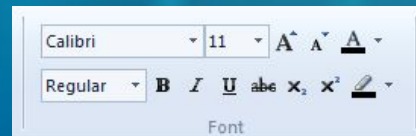
Group dialog launchers

Categorized menus Dropdown galleries

"In-Ribbon" galleries



Font control

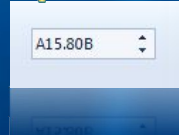


Combo boxes



Buttons and split buttons

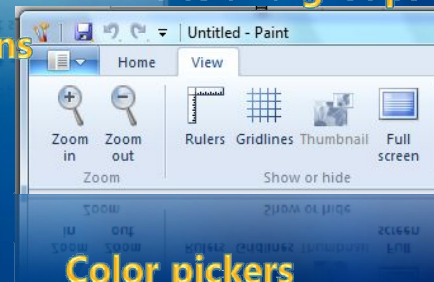
Spinners



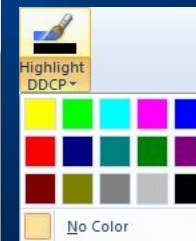
Help button



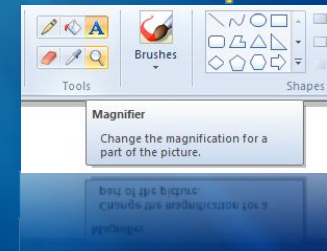
Tabs and groups



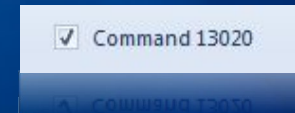
Color pickers



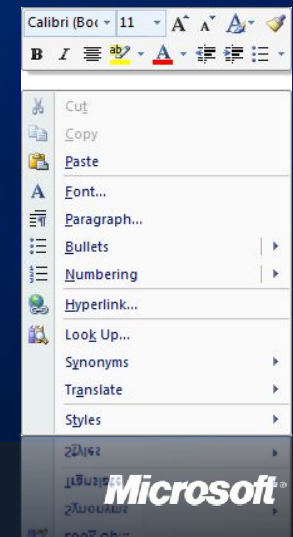
Tooltips



Check boxes



Mini toolbar and contextual menu



Microsoft

Ribbon Markup – Commands Section

- XAML-based. Consists of two sections: commands and views
 - Command elements specify a name, a symbol, a label, an image (.bmp only), an id and tooltip.

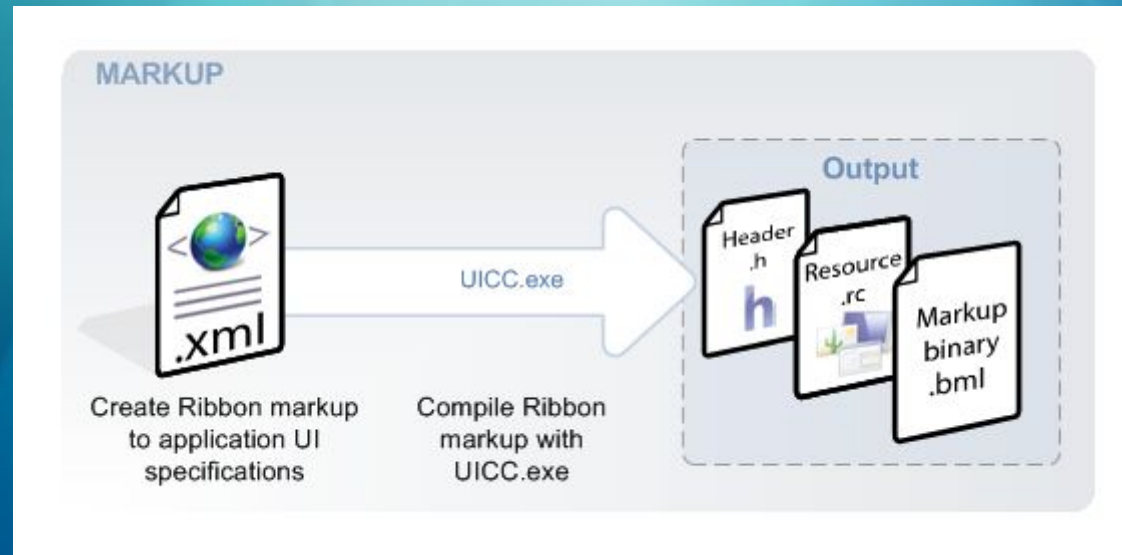
```
<?xml version="1.0" encoding="utf-8"?>  
<Application xmlns='http://schemas.microsoft.com/windows/2009/Ribbon'  
  <Application.Commands>  
    <Command Name='Home' LabelTitle='Home' />  
    <Command Name='HomePage' LabelTitle='HomePage' />  
  </Application.Commands>
```


Ribbon Markup – Views Section

- Specifies the organization of commands into tabs, groups, quick access toolbar, and application menu

```
<Application.Views>
  <Ribbon>
    <Ribbon.Tabs>
      <Tab CommandName='Home'>
        <Group CommandName='GoHomePage' SizeDefinition='OneButton'>
          <Button CommandName='HomePage' />
        </Group>
      </Tab>
    </Ribbon.Tabs>
  </Ribbon>
</Application.Views>
</Application>
```

UICC



● CommandLine Syntax

● UICC <ribbonFile> <binaryFile> [options]

● Example

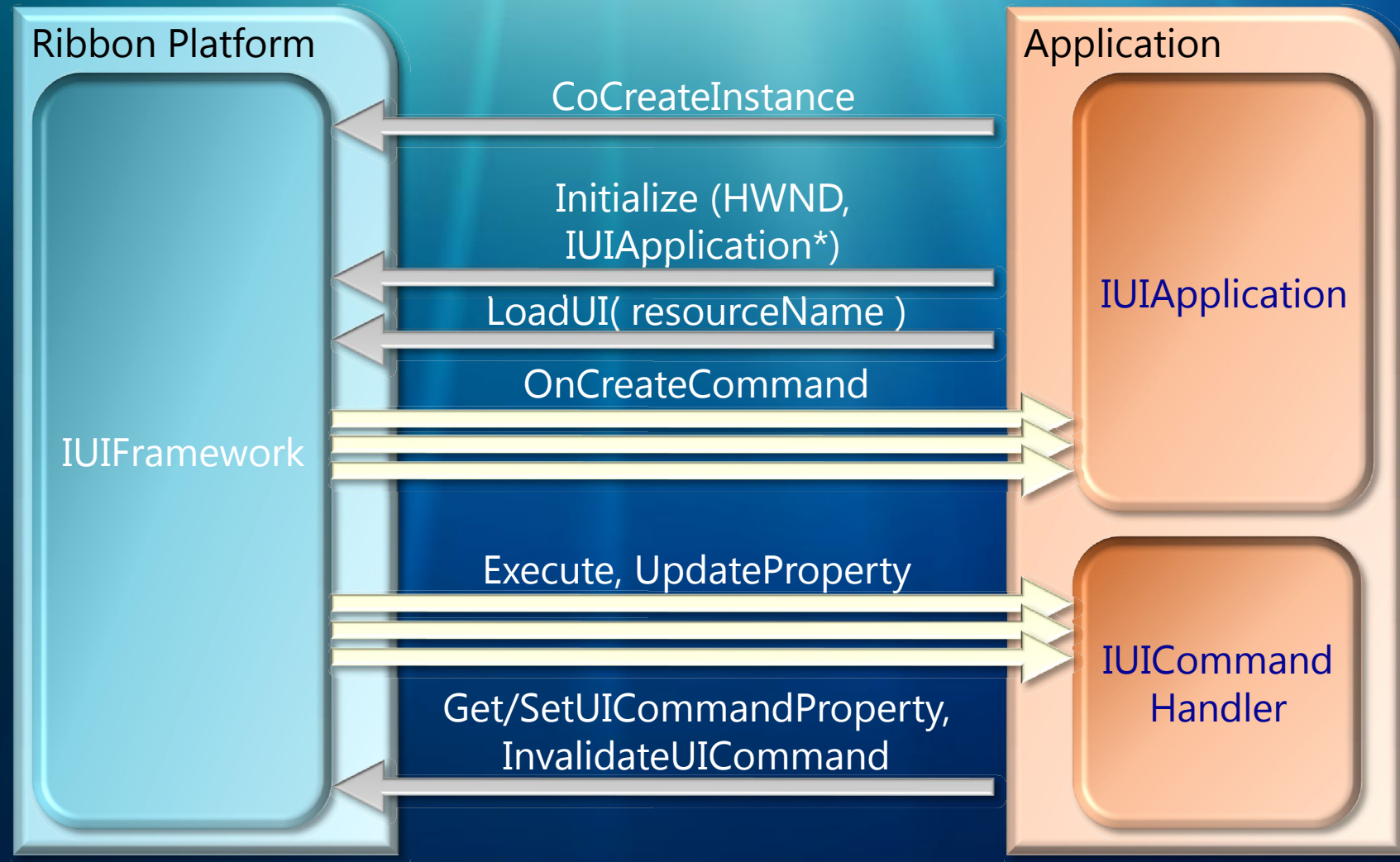
● `Uicc.exe MenuRibbon.xml MenuRibbon.bml
/res:MenuRibbon.rc /header:MenuRibbonRes.h`

Windows 7 Ribbon

Demo

Markup overview

Integrating Windows Ribbon



Implement IUIApplication

```
class CApplication
{
public:
    public CComObjectRootEx<CComMultiThreadModel>,
    public IUIApplication

    BEGIN_COM_MAP(CApplication)
    COM_INTERFACE_ENTRY(IUIApplication)
    END_COM_MAP()

    STDMETHOD(OnViewChanged)(...)
    STDMETHOD(OnCreateUICommand)(...)
    STDMETHOD(OnDestroyUICommand)(...)
};
```

Ribbon initialization function

```
UIFramework* g_pFramework = NULL;
#define CIF(p){if(FAILED(p)) return p;};

HRESULT InitRibbon(HWND hWnd)
{
    HRESULT hr = NULL;
    CIF(::CoCreateInstance(CLSID_UIRibbonFramework, NULL,
        CLSCTX_INPROC_SERVER, IID_PPV_ARGS(&g_pFramework)));
    CComObject<CApplication> *pApplication = NULL;
    CIF(CComObject<CApplication>::CreateInstance(&pApplication));
    CIF(g_pFramework->Initialize(hWnd, pApplication));
    CIF(g_pFramework->LoadUI(GetModuleHandle(NULL),
        L"APPLICATION_RIBBON"));
    return hr;
}
```

Prerequisites

- Windows 7
- Microsoft Visual Studio 2005
(or newer)
- Windows 7 SDK

Basic skills

- Some familiarity
 - Win32 development
 - C++ language
 - Visual Studio
- Basic understanding
 - COM Programming
 - COM Concept

Integrating Ribbon step - 1

- Add new .xml file & Markup XML
- Specify custom build option
 - Command Line filed
 - Output filed
- Include compiled resource file in .rc
- Add support for ATL
 - Static Link to ATL or Dynamic Link to ATL

Integrating Ribbon

step - 2

- Add a new .cpp file
- Include the following headers
 - Precompiled header : stdafx.h
 - ATL/COM headers : atlbase.h, atlcom.h, initguid.h
 - The Ribbon header : uiribbon.h
- Implement the interface IUIApplication
- Define a Ribbon initialization function

Windows Ribbon

Demo

APIs

Thumbnail Toolbars

Overview



- Remote-control for a window
- Surface key commands
- Accessible from taskbar thumbnail

Thumbnail Toolbars

API and usage

- New ITaskbarList3 interface added
- ITaskbarList3* pTaskbarList;
- CoCreateInstance(CLSID_TaskbarList, NULL, CLSCTX_INPROC_SERVER, IID_PPV_ARGS(&pTaskbarList));

```
typedef struct tagTHUMBBUTTON
{
    DWORD dwMask;
    UINT iId;           // Unique button ID
    UINT iBitmap;       // Imagelist ID
    HICON hIcon;        // ...or an HICON
    WCHAR szTip[260];   // Tooltip string
    DWORD dwFlags;      // Enable/disable/hide/etc
} THUMBBUTTON;
```

Thumbnail Toolbars

API and usage

● Setting Button Images

- ThumbBarSetImageList(HWND hwnd, HIMAGELIST himl)

● Add Buttons

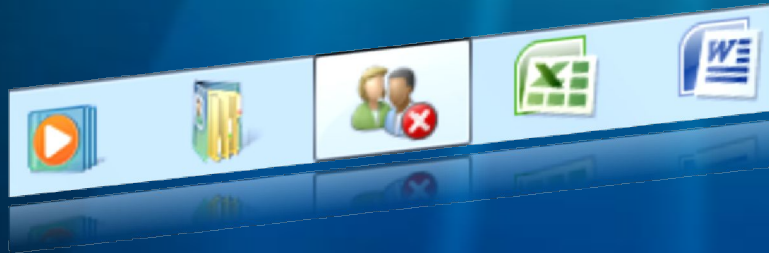
- ThumbBarAddButtons(HWND hwnd,
UINT cButtons,
LPTHUMBUTTON pButton);

Adding a Thumbnail Toolbar

demo

Overlay Icons

Overview



- Surface important notifications
- Appears over your program's icon

Overlay Icons

API and usage

- To set an overlay icon on a taskbar button, use ITaskbarList3's

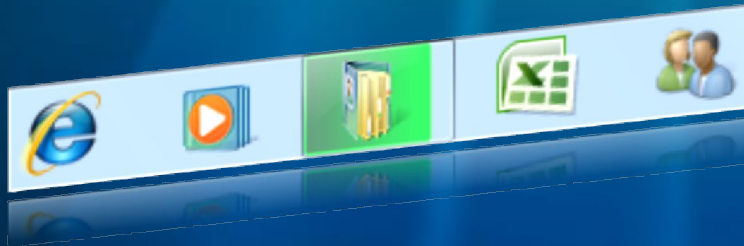
```
HRESULT SetOverlayIcon(  
    HWND hwnd,      // Window to set  
    HICON hIcon);   // Icon to use,  
                    // NULL means none
```

demo

Setting
Overlay Icons

Progress Bars

Overview



- Surface important progress
- Appears in your taskbar button

Progress Bars

API and usage

- Use ITaskbarList3's
- HRESULT SetProgressState(
 HWND hwnd,
 TBPFLAG tbpFlags);
- HRESULT SetProgressValue(
 HWND hwnd,
 ULONGLONG ullCompleted,
 ULONGLONG ullTotal);

demo

Setting Progress

References

- Windows Ribbon Framework(msdn)
- Windows7 SDK(v7.0)
 - Samples\winui\WindowsRibbon
 - Samples\winui\Shell\TaskbarIntegration

Blogs

- <http://flygtr.tistory.com>
- <http://lookit.tistory.com>



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Windows 7 애플리케이션
개발과 현재의 Windows
애플리케이션이 Windows
7의 새로운 기능을 활용할
수 있도록 지원

Windows 7 UI 개발

MFC 업데이트를 통한
Windows 7 UI Element
개발 지원 :

Ribbon, Live Icons

Search Access

Multi Touch 인터페이스

WPF 애플리케이션 개발

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Thank you