

Window styles

Windows programming

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In this talk

1. Window's styles
2. Functions to work with a window
3. Basic message

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Window styles

WS_CHILD | WS_VISIBLE

WS_DISABLED // **EnableWindow**(handle, TRUE/FALSE)

WS_BORDER

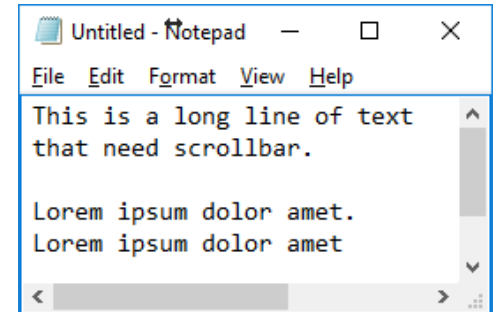
WS_CAPTION: has title bar & border

WS_OVERLAPPEDWINDOW

WS_OVERLAPPED | WS_CAPTION |

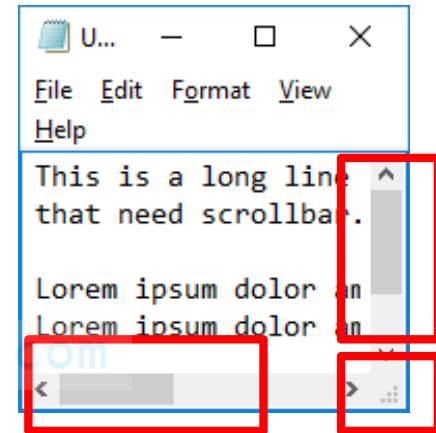
WS_SYSMENU | WS_THICKFRAME |

WS_MINIMIZEBOX | WS_MAXIMIZEBOX



Other styles

- ❑ WS_HSCROLL, WS_VSCROLL
- ❑ WS_SIZEBOX



- ❑ WS_TABSTOP: can receive the **keyboard focus** when the user presses the TAB key

Most basic functions

- ❑ Working with caption
 - **GetWindowText / SetWindowText**
 - **GetWindowTextLength**
- ❑ **ShowWindow**(handle, nCmdShow)
 - SW_SHOW / SW_HIDE
 - SW_MAXIMIZE / SW_MINIMIZE / SW_RESTORE
- ❑ **CloseWindow**(handle)
 - If the main window is closed, what happens?

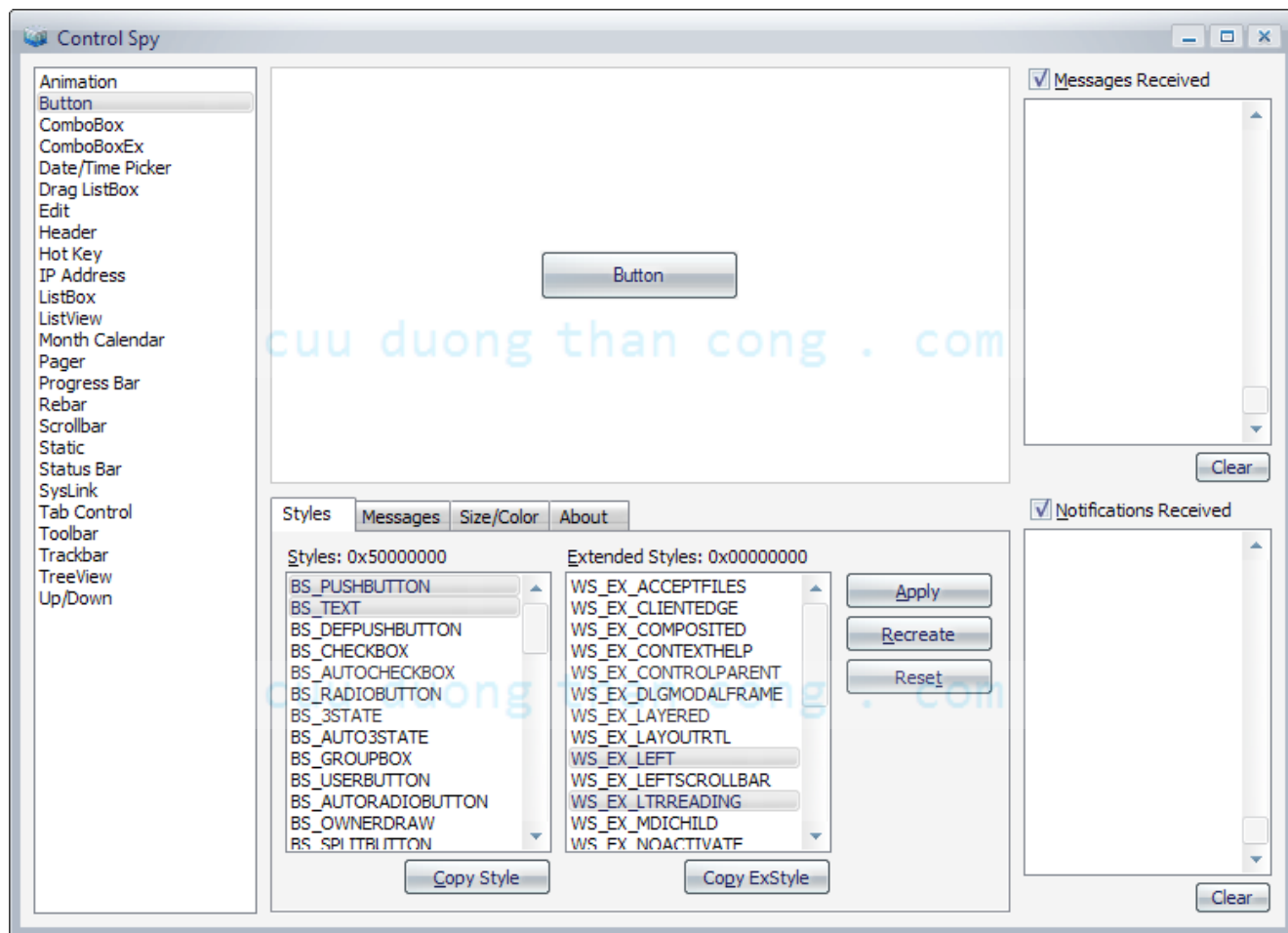
Basic messages

- ❑ WM_ENABLE: enabled state changed
- ❑ WM_MOVE / WM_MOVING
- ❑ WM_SIZE / WM_SIZING

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Control spy



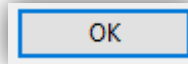
Button

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5 types of buttons

1. BS_PUSHBUTTON

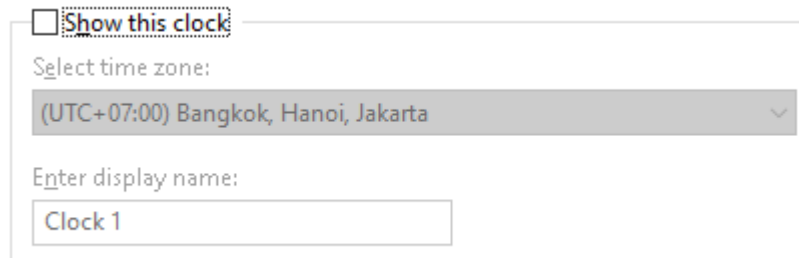


2. BS_CHECKBOX / BS_AUTOCHECKBOX

3. BS_3STATE / BS_AUTO3STATE

4. BS_RADIOBUTTON / BS_AUTORADIOBUTTON

5. BS_GROUPBOX: GroupBox



Checkbox

- ❑ Get state of checkbox
 - **SendMessage**(hwnd, **BM_GETCHECK**, 0, 0)
- ❑ Set state of checkbox
 - **SendMessage**(hwnd, **BM_SETCHECK**, **BST_CHECKED**, 0)
- ❑ **BST_CHECKED** | **BST_INDETERMINATE** | **BST_UNCHECKED**



Radio button

- ❑ Multiple group of radio button, use WS_GROUP
 - CreateWindow(L"BUTTON", L"Choice",
WS_CHILD | WS_VISIBLE | BS_AUTORADIOBUTTON | **WS_GROUP**,
500, 100, 200, 40, hWnd, NULL, hInstance, NULL);

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Image in button

□ BM_GETIMAGE

□ BM_SETIMAGE

- wParam: IMAGE_BITMAP | IMAGE_ICON
- lParam: image handle

```
HICON hIcon = LoadIcon(hInst, MAKEINTRESOURCE(IDI_HELLOWORLD));  
handle = CreateWindowEx(0, L"Button", L"Hello",  
    WS_CHILD | WS_VISIBLE | BS_PUSHBUTTON | BS_TEXT | BS_BOTTOM,  
    30, 30, 100, 150, hWnd, 0, hInst, 0);  
SendMessage(handle, BM_SETIMAGE,  
    (WPARAM) IMAGE_ICON, (LPARAM) hIcon);
```

Note: Text & image only work in dialog!

Static

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Basic style

- ❑ SS_LEFT / SS_RIGHT / SS_CENTER
- ❑ SS_ENDELLIPSIS: auto truncated & add ...
- ❑ SS_BITMAP / SS_ICON: Image static control

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Edit

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Basic style

- ❑ ES_LEFT / ES_RIGHT / ES_CENTER
- ❑ ES_AUTOHSCROLL / ES_AUTOVSCROLL
- ❑ ES_MULTILINE
- ❑ ES_LOWERCASE / ES_UPPERCASE
- ❑ ES_PASSWORD / ES_READONLY / ES_NUMBER

Basic messages

- ❑ EN_CHANGE: text changed
- ❑ EN_HSCROLL, EN_VSCROLL
- ❑ EN_SETFOCUS / EN_KILLFOCUS

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Basic functions

- ❑ **EM_SETPASSWORDCHAR**

- ❑ **EM_SETREADONLY**

- ❑ **EM_GETSEL** cuu duong than cong . com

 - SendMessage(handle, EM_GETSEL, &startPos, &endPos);

- ❑ **EM_GETLINE / EM_GETLINECOUNT**

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- ❑ **SendMessage** (hwndEdit, **WM_CUT**, 0, 0) ;

 - SendMessage** (hwndEdit, **WM_COPY**, 0, 0) ;

 - SendMessage** (hwndEdit, **WM_PASTE**, 0, 0) ;

Homework

- ☐ Create a Notepad app.
- ☐ Can open, Save text file with Unicode
- ☐ Can Cut, Copy, Paste

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