

What is Interface Builder and what are nib files?

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Interface Builder is the GUI editor provided by Apple, which is widely used among Objective-C developers. It is actually the best GUI tool for Mac Cocoa development, because it is tightly connected to Cocoa. More said, it is part of Cocoa. Cocoa is an object-oriented application environment designed specifically for developing Mac applications quickly and efficiently.

Interface Builder is used to create nib files containing windows and controls with outlets and actions

Interface Builder lets you create windows and its interface controls like buttons and save the interfaces as so called nib files, which are loaded during runtime of your program. (But nib files may also contain information about executing your code and which custom objects or classes should be used in your program.)

In Interface Builder you draw your windows and controls and connect them to variables and functions declared in your source code in the Objective-Basic IDE. Two special keywords are used for this task:

• **IBOutlet** let you connect variables to **controls** located in your source codes to interface controls like buttons. They are defined in your source code like ordinary variables except that they point to a control in a nib file object loading during application startup.

```
IBOutlet mybutton As Button
```

So you can use mybutton in your source code to change the title of the connected button at runtime or any function or property of a Button.

• **IBAction** are the **event function** called, when ever the default event of the control is triggered. They are defined in your source code like ordinary functions and then connected to the interface controls in Interface Builder.

```
IBAction helloworld(sender As Object)
    ' your event code here
End IBAction
```

If the function helloworld is connected to a Button, it gets called whenever the button is pressed by the user.

Application startup, automatically loading nib file, and object creation of windows and controls

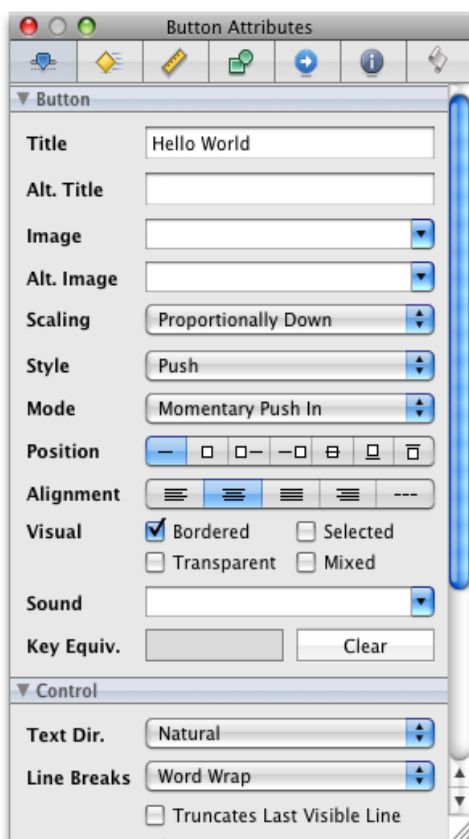
• When a nib is loaded – the main nib file is automatically loaded by Cocoa for you, the nib loader allocates and initializes all objects, then hooks up all of their outlets and actions. After all outlets and actions are connected, the nib loader calls the special function **AwakeFromNib** of every object

in the nib. This is where you can access outlets to set up default values or do configuration in code.

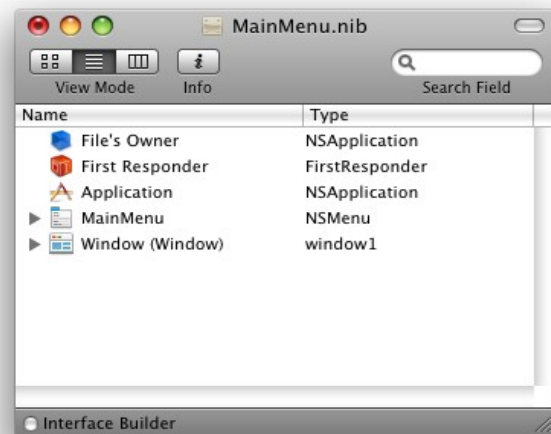
Whenever you change code by adding or removing IBActions or IBOutlets in the Objective-Basic IDE, hit the "Make Objective-Basic" to inform Interface Builder about the changes in your source code. In never version of the IDE of Objective-Basic, it automatically updates the changes for IB, when you use the Interface Builder Button in the toolbar or the related items in the menubar to switch to Interface Builder.

Several windows in Interface Builder let you create the needed GUI

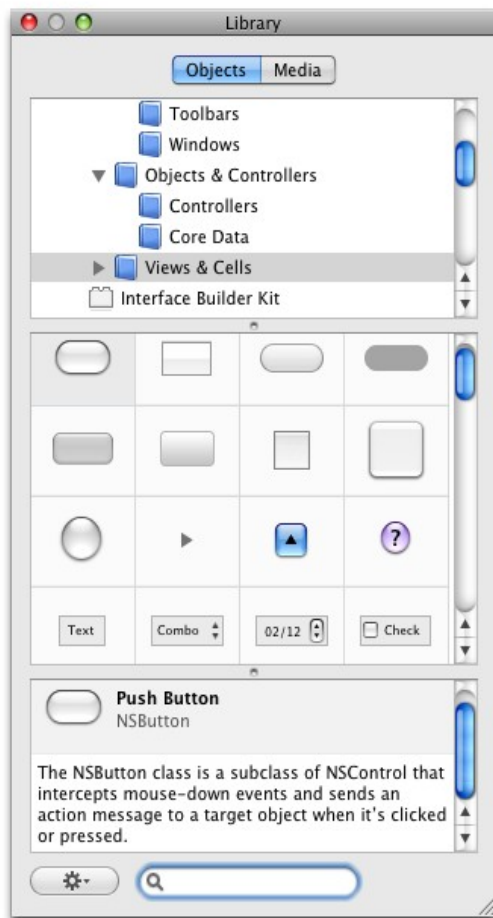
- There is a main window listening all objects and windows. Double click on a object item in the list and it will be opened ready for editing.
- The property window let you change the properties of windows and controls.
Select in the menubar *Tools* -> *Attributes Inspector* to see it
- The object and control list let you choose the new objects or controls to be insert.
Select in the menubar *Tools* -> *Library* to see it



Screenshot 1: The property window let you change the properties of windows and controls.



Screenshot 2: The list of windows and objects available in the nib file



Screenshot 3: The object and control list let you choose the new objects or controls to be insert.

Switching between Interface Builder and the IDE of Objective-Basic

Select in the menubar *Interface Builder -> MainMenu.nib* and Interface Builder will be opened with the nib file for the current project (the MainMenu.nib) ready for editing.