



# PyObjC

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# Objective C History

A spiral-bound notebook with a white page and a dark blue cover. The spiral binding is at the top. The text is written on the page.

# It is the 1980s...

- ❑ SmallTalk 80
- ❑ Object Oriented Programming
- ❑ C++
- ❑ Objective C

# NeXT Chooses ObjC

- NeXTStep
- FoundationKit
  - Rich collections
- AppKit
  - Rich UI

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# It is the 1990s...

- ❑ NeXT hardware is not selling well
  - ❑ Too expensive
  - ❑ Incompatible with DOS/Mac apps

# OpenStep

- ❑ OpenStep is an API specification
- ❑ Includes Foundation and AppKit
- ❑ Implemented on Windows (by NeXT)
- ❑ Implemented by Sun and HP

# GNUStep

- ❑ Implementation of OpenStep
- ❑ GNU licensed (LGPL)
- ❑ In development for more than 10 years



Apple Buys NeXT

- Begins OpenStep on PPC
- Codename “Rhapsody”
- Becomes Mac OS X
  - “Carbon” Mac OS API Compatibility
- AppKit evolves into “Cocoa”

A blue spiral-bound notebook with a silver metal spiral binding at the top. The cover is a solid, textured blue color. The text "Cocoa Demo" is printed in the center in a white, sans-serif font.

# Cocoa Demo

A dark blue, spiral-bound notebook cover with a silver metal spiral binding along the top edge. The cover has a fine, pebbled texture. The text 'PyObjC' is printed in the center in a white, sans-serif font.

PyObjC

# Objective C is Late Binding

The code to run for each method is located at runtime, instead of being linked in at compile time



Python is Awesome

# PyObjC

Provides a transparent bridge between the Python and Objective C runtimes

# Integration issues

- ❑ [self setFirstName: f lastName: l]
- ❑ self.setFirstName\_lastName\_(f, l)

# Why not...?

- ❑ [self setFirstName: f lastName: l]
- ❑ self.setName(first, last)
- ❑ Need new documentation
- ❑ Bridge gets stale

# Apps, Not Scripts

- ❑ Need to be built
- ❑ py2app

A blue spiral-bound notebook is shown from a top-down perspective. The spiral binding is visible along the top edge. The cover of the notebook is a solid, textured blue color. In the center of the cover, the words "Hello World" are printed in a clean, white, sans-serif font.

Hello World

# Cocoa Bindings

- ❑ Modern Cocoa API added in Mac OS X 10.3
- ❑ “Controller” layer of MVC

A close-up view of the top edge of a spiral-bound notebook. The spiral binding is made of silver-colored metal rings, and the paper is a light blue color. The notebook is set against a black background.

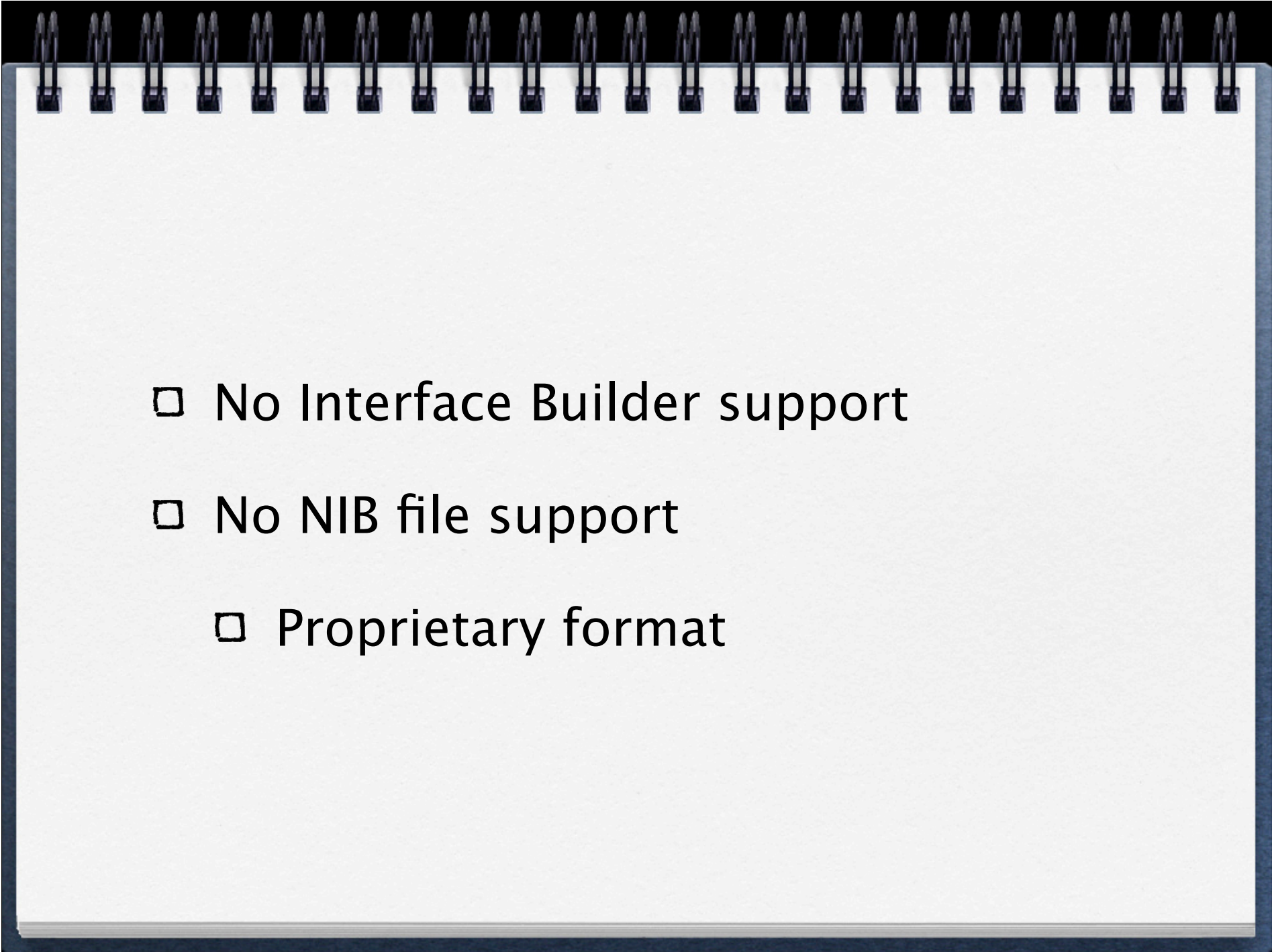
# Binding Demo

A dark blue, spiral-bound notebook with a silver metal spiral binding along the top edge. The cover has a fine, pebbled texture. The text "GNUStep" is printed in the center in a white, sans-serif font.

GNUStep

# GNUStep: Please Help

- ❑ Rich Objective C support
- ❑ PyObjC support incomplete
- ❑ Inconsistencies between Apple runtime and GNU runtime

- 
- No Interface Builder support
  - No NIB file support
    - Proprietary format

# Renaissance

- ❑ Replacement for NIB file strategy
- ❑ Uses XML UI descriptions
- ❑ No GUI editor
- ❑ X-Platform

# The Dream

- ❑ Cross-Platform PyObjC Applications
- ❑ Cocoa: Best framework in the world

A dark blue, spiral-bound notebook cover is shown. The spiral binding is visible at the top edge. The cover has a fine, pebbled texture. In the center of the cover, the text "Q&A" is printed in a white, serif font.

Q&A