

A large pile of dried cocoa beans in a woven basket, serving as the background for the title.

COCOA WORKSHOP

PART 2

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WORKSHOP SCHEDULE

I. Introduction, Foundation	2009-02-17
2. GUI Programming	2009-02-19
3. Hands-On	2009-02-24
4. Advanced	2009-02-26

STRUCTURE

- Homework
- Continuation from Tuesday
- Introduction To AppKit
- Important Classes
- Key Value Coding
- Key Value Observing
- Big Example 2

HOMEWORK

CONTINUATION FROM
TUESDAY

#IMPORT

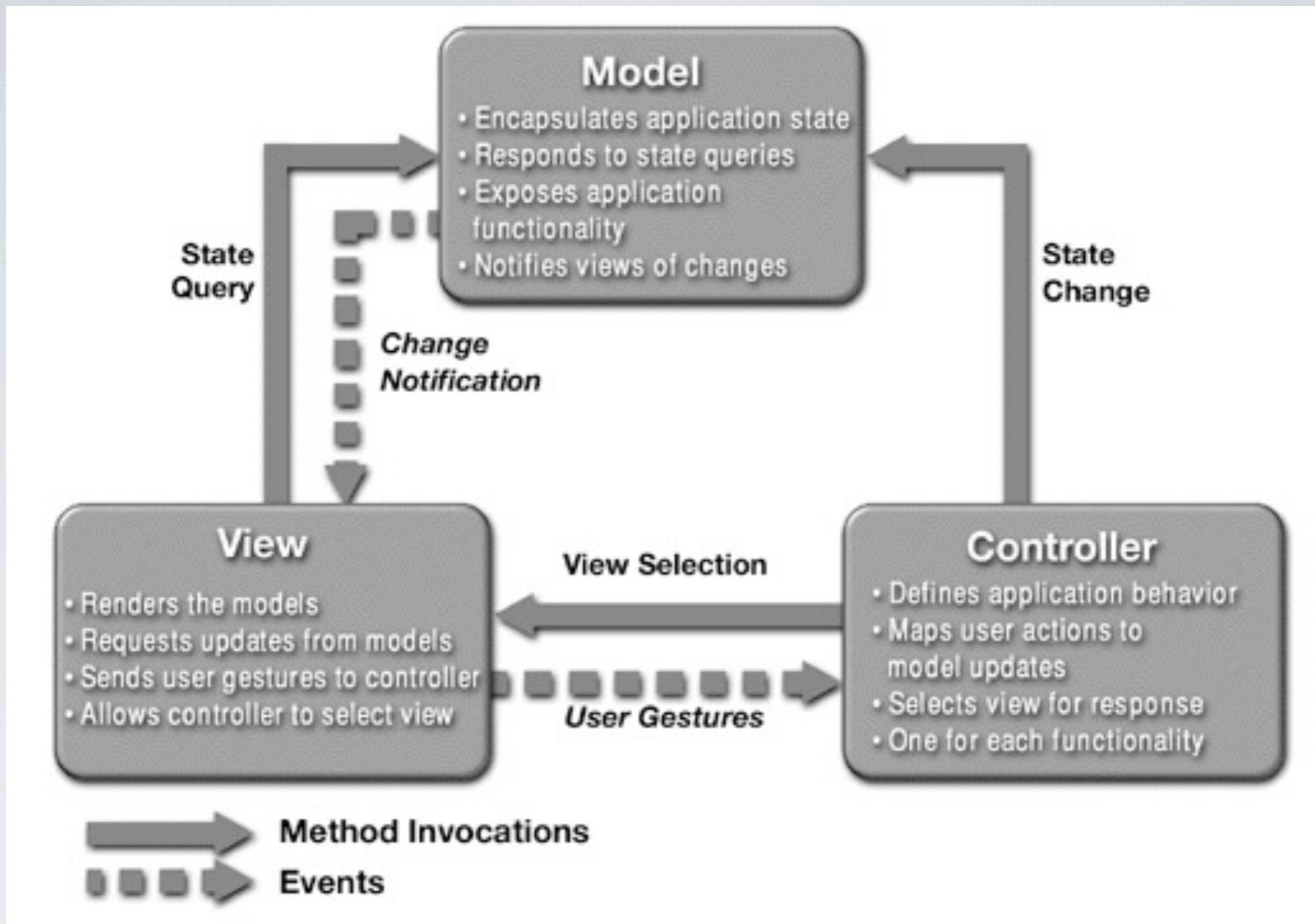
- #import same as #include, except:

```
#ifndef __BLA_H  
#define __BLA_H
```

...

```
#endif
```





MODEL VIEW CONTROLLER

MAC OS X BUNDLES

- Folder as a file
- Contents/
 - Resources/
 - MacOS/
 - Info.plist



LOCALIZATION

- English.lproj / en.lproj
- German.lproj / de.lproj
- Japanese.lproj / ja.lproj
- InfoPlist.strings
- Localizable.strings



INTRODUCTION TO APPKIT

GUI PROGRAMMING

- Concept:
 - The programmer only implements the things that are specific to the application
 - No code is generated by any tool!
- nib/xib files



INTERFACE BUILDER

- Reads/writes nib and xib files
- Connects the GUI to the code
- Nobody codes the GUI in Cocoa!
(except at gunpoint)



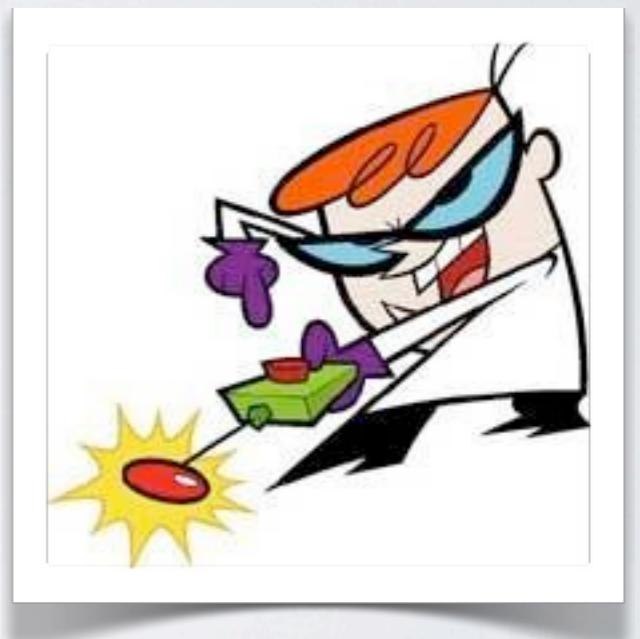
OUTLET

- Connects views to instance variables
- Happens at runtime (Java-speak: “reflection”)



ACTION

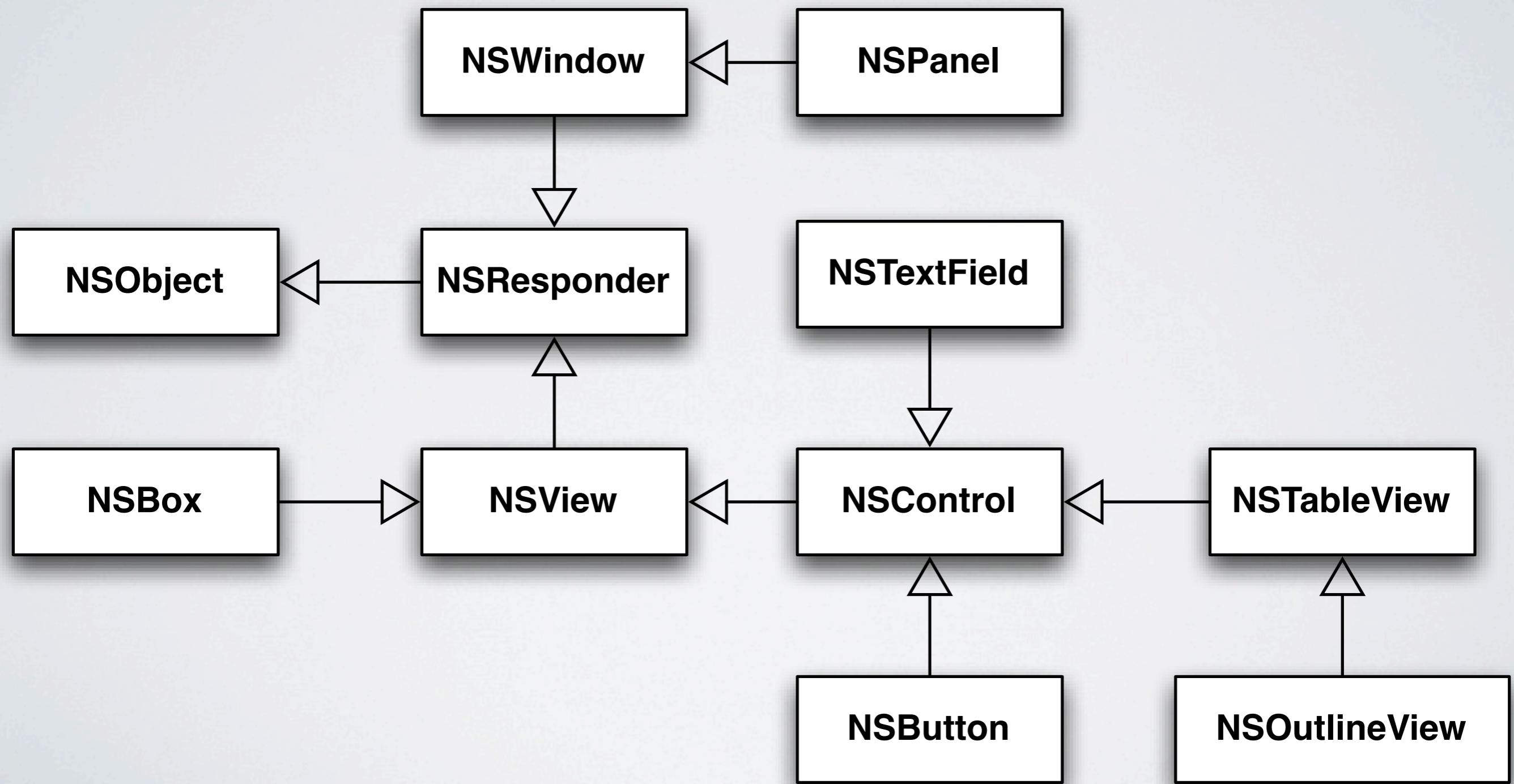
- Connects controls to methods
- “What happens when I push this button?”



DELEGATION

- OOP-replacement for callbacks
- Optional methods!
- Declared either via a protocol or via a category interface to NSObject

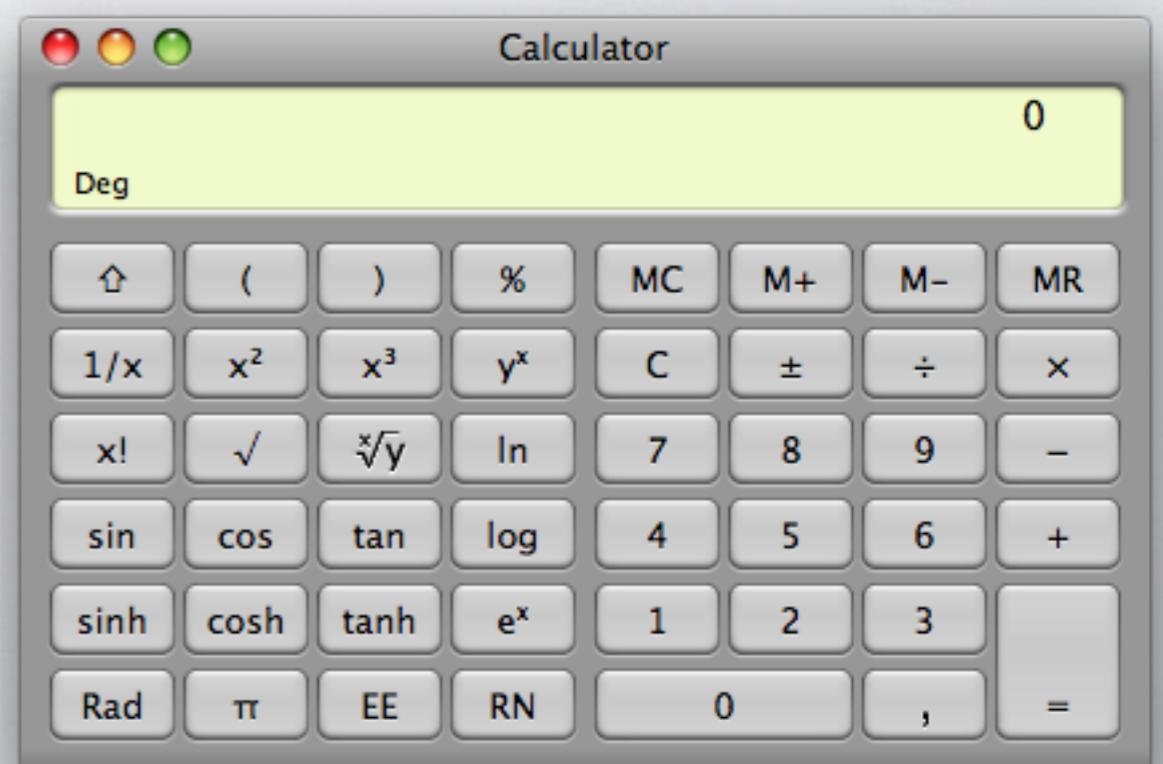
APPKIT STRUCTURE



IMPORTANT CLASSES

NSWINDOW

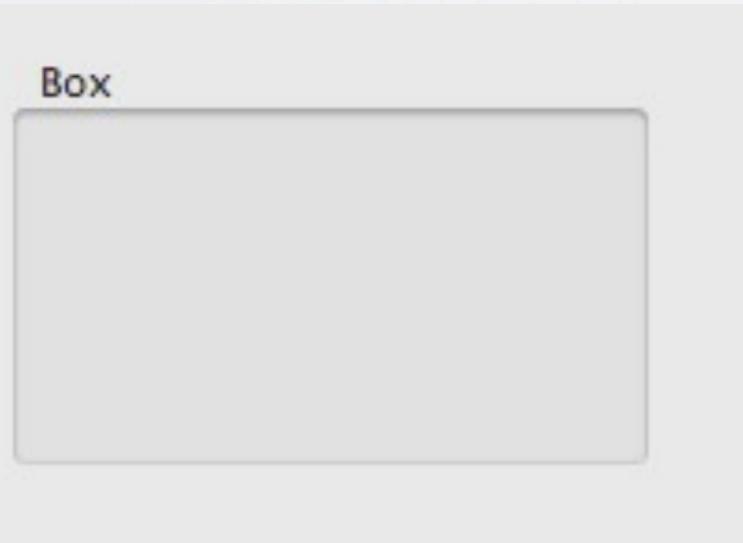
- A free-floating rectangle on the screen
- Root of a view hierarchy
- Supports layers
- Content view



NSVIEW

Custom View

- Base class for everything drawable in a window
- Can be subclassed for custom drawing (→ Part 3)
- NSBox



NSBUTTON

- Action on click
- Many different types of buttons
 - Push button
 - Checkbox
 - Radio button
 - ...



NSTEXTFIELD

- Simple text entry
- Single font, single style
- Action either on enter or end editing
- Supports placeholders



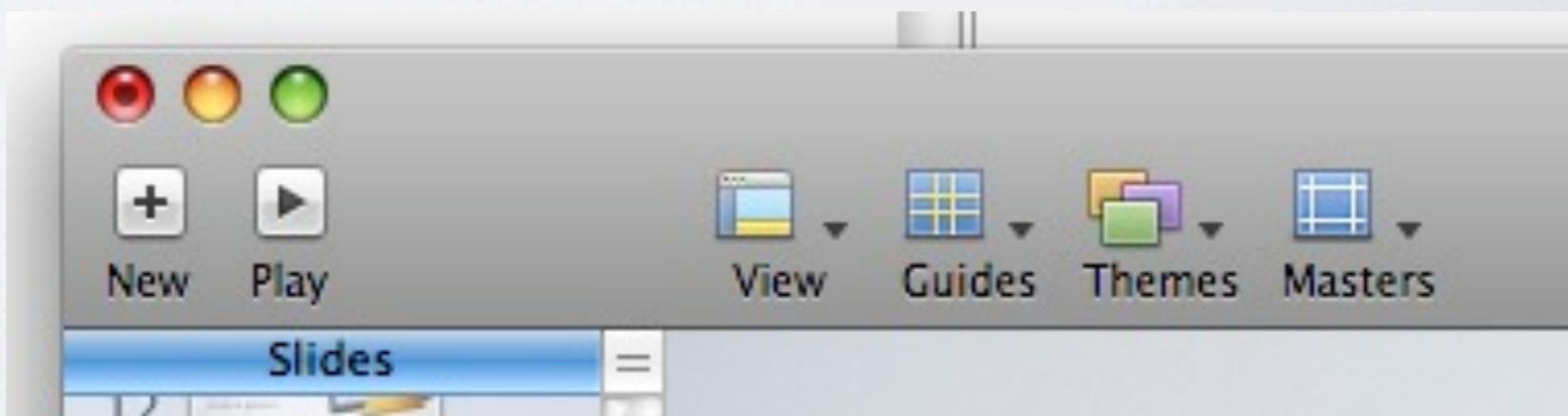
NSTABLEVIEW

- List of elements
- Uses a data source and delegation
- NSOutlineView
 - Tree view subclass

Text Cell	Text Cell

NSTOOLBAR

- Can be done in Interface Builder



NSBUNDLE

- + (NSBundle *)bundleForClass:(Class)aClass
- (NSString *)pathForResource:(NSString *)name
ofType:(NSString *)ext



NSLocalizedString(key, comment)

(NSArray*)NSSearchPathForDirectoriesInDomains(
NSApplicationSupportDirectory, NSUserDomainMask, YES)

KEYVALUE CODING KEYVALUE OBSERVING

“The Magic of Objective-C”

KEY-VALUE CODING



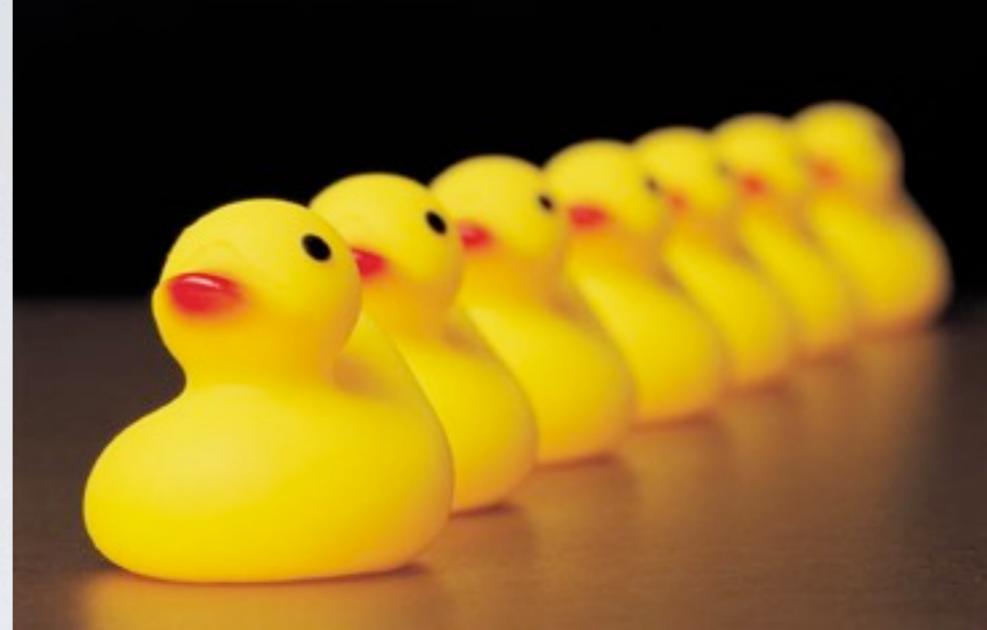
- `(id)valueForKey:(NSString*)key`
- `(id)valueForKeyPath:(NSString*)keyPath`
- `(void)setValue:(id)value forKey:(NSString*)key`
- `(void)setValue:(id)value
forKeyPath:(NSString*)keyPath`

KEY VALUE OBSERVING



- `(void)addObserver:(NSObject *)observer
forKeyPath:(NSString *)keyPath
options:(NSKeyValueObservingOptions)options
context:(void *)context`
- `(void)removeObserver:(NSObject *)observer
forKeyPath:(NSString *)keyPath`
- `(void)observeValueForKeyPath:(NSString *)keyPath
ofObject:(id)object
change:(NSDictionary *)change
context:(void *)context`

NSARRAYCONTROLLER



- Controls an array
- Sort descriptor, filtering
- For NSTableView, NSPopUpButton, etc
 - `(void)arrangeContent`

BINDING



- KVO/KVC for the interface



HOW TO LOAD MULTIPLE NIBS

- `[[NSBundle bundleForClass:[self class]]
loadNibNamed:@"..." owner:self];`

BIG EXAMPLE 2

It's your turn!

