Adapting to the New UI of OS X Yosemite

Session 209
Mike Stern
User Experience Evangelist
Rachel Goldeen
Cocoa Software Engineer
Patrick Heynen
Cocoa Engineering Manager
Introduction
Introduction

Yosemite brings a fresh look to the Mac
Introduction

Yosemite brings a fresh look to the Mac
Understand what has changed and why
Introduction

Yosemite brings a fresh look to the Mac
Understand what has changed and why
Getting the most out of the New UI in Cocoa
Design Principles

Developer’s Tour of Yosemite

Vibrancy

Fonts, Colors, and Artwork

App Compatibility
Design Principles

Developer’s Tour of Yosemite

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Developer’s Tour of Yosemite

Vibrancy

Fonts, Colors, and Artwork

App Compatibility
Design Themes

Mike Stern
User Experience Evangelist
Not an engineer
2014 Yosemite
2014  Yosemite

2001  Cheetah
2014 Yosemite

2001 Cheetah
Simplicity
Lucida Grande
Lucida Grande

Helvetica Neue
Consistency
Helvetica Neue
Depth
Tuesday, June 3rd

Partly cloudy currently. It's 72°; the high today was forecast as 76°.
Get Lucky (feat. Pharrell Williams)
Daft Punk - Random Access Memories
Monday, June 2nd

"Cocoa Presentation" is currently in progress, and it started 10 minutes ago.
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<td>5/13/14</td>
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<tr>
<td>Documents</td>
<td></td>
<td>9:41 AM</td>
<td>Folder</td>
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<tr>
<td>Downloads</td>
<td></td>
<td>5/13/14</td>
<td>Folder</td>
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<tr>
<td>Movies</td>
<td></td>
<td>Yesterday</td>
<td>Folder</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td>4/10/15</td>
<td>Folder</td>
</tr>
<tr>
<td>Pictures</td>
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<td>11/17/13</td>
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</tr>
<tr>
<td>Public</td>
<td></td>
<td>4/12/14</td>
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<td>Sites</td>
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<td>Desktop</td>
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<td>Folder</td>
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<tr>
<td>Documents</td>
<td>--</td>
<td>9:41 AM</td>
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<td>5/13/14</td>
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<td>Movies</td>
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<td>Yesterday</td>
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<td>2/8/13</td>
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9 selected, 670.57 GB available
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<th>Public</th>
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<tr>
<td>Sites</td>
<td>--</td>
<td>2/8/13</td>
<td>Folder</td>
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</table>
Content-Focused
Developer’s Tour of Yosemite

Rachel Goldeen
Cocoa Software Engineer
WWDC 2014

WWDC14

WWDC 14


Over the past six years, a massive cultural shift has occurred. It’s changed how we interact with one another. Learn new things. Entertain ourselves. Do our work. And live our daily lives. All because of developers and the apps they create.
Translucent Toolbars
Translucent Toolbars
Translucent Toolbars
Translucent Toolbars
Translucent Toolbars
Translucent Toolbars

NSScrollView
Translucent Toolbars
Without scroll views
Translucent Toolbars
Without scroll views

Use window style mask NSFullSizeContentViewWindowMask
Translucent Toolbars
Without scroll views

Use window style mask NSF ullSizeContentViewWindowMask
window.styleMask |= NSF ullSizeContentViewWindowMask;
Translucent Toolbars
Without scroll views

Use window style mask NSFullSizeContentViewWindowMask
window.styleMask |= NSFullSizeContentViewWindowMask;

Example: translucent toolbars and titlebars that show and hide
Related Session

- Adopting Advanced Features of the New UI of OS X Yosemite

Marina

Wednesday 2:00PM
Tinted Sliders
Tinted Sliders
Tinted Sliders
Tinted Sliders

Non-directional sliders only
Tinted Sliders

Non-directional sliders only

slider.numberOfTickMarks = 0;
Fullscreen Button
Fullscreen Button

Press Option to zoom
Separated Segmented Control
Separated Segmented Control

Navigation, incremental steps
Separated Segmented Control

Navigation, incremental steps
segmentedControl.segmentStyle = NSSegmentStyleSeparated;
Translucent Sidebars
Translucent Sidebars

For free, if…
Translucent Sidebars

For free, if…
NSOutlineView or NSTableView
Translucent Sidebars

For free, if…
NSOutlineView or NSTableView
Highlight style set to Source List
Translucent Sidebars

For free, if…
NSOutlineView or NSTableView
Highlight style set to Source List
Example: SidebarDemo
From http://developer.apple.com
WWDC 2014

Hidden Window Titles
Hidden Window Titles

New NSWindow property: titleVisibility
Hidden Window Titles

New NSWindow property: titleVisibility

window.titleVisibility = NSWindowTitleHidden;
Animated Controls
Animated Controls
Search field
Animated Controls

Search field
Animated Controls

Radio buttons

Position on screen:  Left  Bottom  Right
Animated Controls

Radio buttons

Position on screen:  
Left  Bottom  Right
Animated Controls

Checkboxes

- [ ] Double-click a window's title bar to minimize
- [ ] Minimize windows into application icon
- [x] Animate opening applications
- [ ] Automatically hide and show the Dock
- [x] Show indicators for open applications
Animated Controls

Checkboxes

- [ ] Double-click a window's title bar to minimize
- [ ] Minimize windows into application icon
- [x] Animate opening applications
- [ ] Automatically hide and show the Dock
- [x] Show indicators for open applications
Animated Controls

Popup buttons

Minimize windows using: Genie effect

Double-click a window
Animated Controls
Popup buttons

Minimize windows using: Genie effect
Double-click a window
Visual Effect View
NSVisualEffectView
Visual Effect View

NSVisualEffectView

Vibrant Dark appearance
Visual Effect View
NSVisualEffectView

Vibrant Dark appearance
NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
Visual Effect View

NSVisualEffectView

Vibrant Dark appearance

NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
NSAppearance *darkAppearance =
    [NSAppearance appearanceNamed:NSAppearanceNameVibrantDark];
Visual Effect View

NSVisualEffectView

Vibrant Dark appearance

NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
NSAppearance *darkAppearance =
    [NSAppearance appearanceNamed:NSAppearanceNameVibrantDark];
effectView.appearance = darkAppearance;

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Visual Effect View
NSVisualEffectView
Visual Effect View

NSVisualEffectView

Vibrant Light appearance
Visual Effect View

NSVisualEffectView

Vibrant Light appearance

NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
Visual Effect View

Vibrant Light appearance

NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
NSAppearance *lightAppearance =
    [NSAppearance appearanceNamed:NSAppearanceNameVibrantLight];
Visual Effect View

NSVisualEffectView

Vibrant Light appearance

NSVisualEffectView *effectView = [NSVisualEffectView initWithFrame:frame];
NSAppearance *lightAppearance = [NSAppearance appearanceNamed:NSAppearanceNameVibrantLight];
effectView.appearance = lightAppearance;
Related Session

- Adopting Advanced Features of the New UI of OS X Yosemite
  Marina  Wednesday 2:00PM
Vibrancy

Patrick Heynen
Cocoa Engineering Manager
Vibrancy
A visual building block for OSX
Vibrancy
A visual building block for OSX
Vibrancy

What is it?
Advanced Blending on Dynamic Backgrounds
2 + 2 = 4
2 + 2 = 5
The whole is greater than the sum of the parts
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
Combining Foreground and Background
The whole is greater than the sum of the parts
Vibrant Materials
Vibrant Materials

Menus/popovers
Vibrant Materials

Menus/popovers
Light (sidebar)
Vibrant Materials

Menus/popovers
Light (sidebar)
Titlebars
Vibrant Materials

Menus/popovers
Light (sidebar)
Titlebars
Dark
New Vibrant System Behaviors
New Vibrant System Behaviors

Source lists
New Vibrant System Behaviors

Source lists
Translucent titlebar
New Vibrant System Behaviors

Source lists
Translucent titlebar
Menus and popovers
New Vibrant System Behaviors

Source lists
Translucent titlebar
Menus and popovers
Menu bar and status items
Using Vibrancy in Your Apps

NSVisualEffectView + NS Appearance
NSVisualEffectView
NSVisualEffectView

Background view containing blurred version of window or desktop contents
NSVisualEffectView

Background view containing blurred version of window or desktop contents
Offered in light and dark material flavors
NSVisualEffectView

Background view containing blurred version of window or desktop contents
Offered in light and dark material flavors
Automatically updates as content underneath changes
NSAppearance
NSAppearance

NSAppearanceNameVibrantLight and NSAppearanceNameVibrantDark
NS Appearance

NSAppearanceNameVibrantLight and NSAppearanceNameVibrantDark
Provide colors, controls, and template image treatments suitable for vibrant rendering
NSAppearance

NSAppearanceNameVibrantLight and NSAppearanceNameVibrantDark
Provide colors, controls, and template image treatments suitable for vibrant rendering
Foreground content source for NSVisualEffectView materials
NSAppearance

NSAppearanceNameVibrantLight and NSAppearanceNameVibrantDark
Provide colors, controls, and template image treatments suitable for vibrant rendering
Foreground content source for NSVisualEffectView materials
AppKit controls automatically pick up vibrant rendering where appropriate
Demo

Using vibrancy in your apps
Vibrancy

More in-depth details on using NSVisualEffectView
Fonts, Colors, and Artwork
What’s New in Fonts?
System Font
New System Font
New System Font

Helvetica Neue, optimized for OSX
New System Font

Helvetica Neue, optimized for OSX
Font metrics tuned to balance layout compatibility with aesthetics
Font Metrics
Lucida Grande
Finder
Font Metrics
Lucida Grande

Finder

3.8 1.5 3.6 4.2 4.1 3.2
Layout Compatibility
Layout Compatibility

Compression applied if in danger of clip
Layout Compatibility

Compression applied if in danger of clip
Active for apps built against 10.9 or earlier only
Layout Compatibility

Compression applied if in danger of clip
Active for apps built against 10.9 or earlier only
No silver bullet!
Layout compression can affect legibility
Layout compression can affect legibility
New System Font
New System Font

Use System Font Selectors
New System Font

Use System Font Selectors

+ [NSFont systemFontOfSize:]
+ [NSFont boldSystemFontOfSize:]
+ [NSFont labelFontOfSize:]
Do not explicitly set your font to “Helvetica Neue”
Colors
System Colors
System Colors

Use colors as a ‘system’ not a set of numbers!
System Colors

Use colors as a ‘system’ not a set of numbers!
Many standard system colors have been adapted to the new UI
System Colors

Use colors as a ‘system’ not a set of numbers!
Many standard system colors have been adapted to the new UI
Information hierarchy
  +[NSColor labelColor]
  +[NSColor secondaryLabelColor]
System Colors

Control text adapts to control state
System Colors
Control text adapts to control state
System Colors
Control text adapts to control state

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<tr>
<td>Pressed</td>
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<td>Sample</td>
</tr>
<tr>
<td>On</td>
<td>Sample</td>
<td>Sample</td>
</tr>
<tr>
<td>On + Pressed</td>
<td>Sample</td>
<td>Sample</td>
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<tr>
<td>On + Disabled</td>
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System Colors
Adapt to vibrant NSAppearances
Artwork
Template Images
Maximum flexibility
Template Images
Maximum flexibility

Image provides shape
Template Images
Maximum flexibility

Image provides shape
Template Images
Maximum flexibility

Image provides shape
Transformed by AppKit with context specific appearance
Template Images
Maximum flexibility

Image provides shape
Transformed by AppKit with context specific appearance
Template styling will automatically follow control state
App Compatibility
App Compatibility

New OS X UI brings big changes to your app’s look and feel
App Compatibility

New OS X UI brings big changes to your app’s look and feel

aesthetic | es'THetik | (also esthetic)
adjective
concerned with beauty or the appreciation of beauty:
the pictures give great aesthetic pleasure.
• giving or designed to give pleasure through beauty; of pleasing appearance.
noun [in sing.]
a set of principles underlying and guiding the work of a
App Compatibility

New OS X UI brings big changes to your app’s look and feel.

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App Compatibility
App Compatibility

Make it awesome on Yosemite
App Compatibility

Make it awesome on Yosemite
What about deploying on Mavericks?
App Compatibility

Make it awesome on Yosemite
What about deploying on Mavericks?
Having it both ways can be hard
App Compatibility

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Make it awesome on Yosemite
What about deploying on Mavericks?
Having it both ways can be hard
App Compatibility

Suggested techniques

Stick with the System!
App Compatibility

Suggested techniques

Use Runtime checks to tailor your code and resources for each design.
App Compatibility
Symbol check
// Check to see if we can go vibrant
if (&NSAppearanceNameVibrantDark!=0) {
    NSAppearance *vibrantDarkAppearance = [NSAppearance appearanceNamed:NSAppearanceNameVibrantDark];

    NSVisualEffectView *fxView = [[NSVisualEffectView alloc] initWithFrame:self.inspector.frame];
    ...
}
// Check to see if we can go vibrant
if (&NSAppearanceNameVibrantDark!=0) {
    NSAppearance *vibrantDarkAppearance = [NSAppearance appearanceNamed:NSAppearanceNameVibrantDark];

    NSVisualEffectView *fxView = [[NSVisualEffectView alloc] initWithFrame:self.inspector.frame];
    ...
}

App Compatibility
Version check
App Compatibility

Version check

if (rint(NSAppKitVersionNumber) > NSAppKitVersionNumber10_9) {
    self.infoView.image = [NSImage imageNamed:@"InfoImageNew"];  
} else {
    self.infoView.image = [NSImage imageNamed:@"InfoImageOld"]; 
}
App Compatibility

Version check

```swift
if (rint(NSAppKitVersionNumber) > NSAppKitVersionNumber10_9) {
    self.infoView.image = [NSImage imageNamed:@"InfoImageNew"];
} else {
    self.infoView.image = [NSImage imageNamed:@"InfoImageOld"];
}
```
App Compatibility

Look for opportunities to freshen your design everywhere
When in doubt, favor the new visual style!
Conclusion
Conclusion

New User Interface design for OS X
Conclusion

New User Interface design for OS X
Understanding vibrancy
Conclusion

New User Interface design for OS X
Understanding vibrancy
Adapting your applications
Conclusion

New User Interface design for OS X
Understanding vibrancy
Adapting your applications
See advanced session for more in-depth exploration
Summary

Exciting changes to design of OS X
Cocoa frameworks can guide you through
More Information

Jake Behrens
Developer Evangelist
behrens@apple.com

Documentation
http://developer.apple.com

Apple Developer Forums
http://devforums.apple.com
## Related Sessions

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<thead>
<tr>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>What's New in Cocoa</td>
<td>Presidio</td>
<td>Tuesday 11:30AM</td>
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<td>Adopting Advanced Features of the New UI of OS X Yosemite</td>
<td>Marina</td>
<td>Wednesday 2:00PM</td>
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<td>Creating Extensions for iOS and OS X, Part 1</td>
<td>Mission</td>
<td>Tuesday 2:00PM</td>
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<td>What's New in Interface Builder</td>
<td>Mission</td>
<td>Wednesday 3:15PM</td>
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<td>Designing Intuitive User Experiences</td>
<td>Presidio</td>
<td>Tuesday 4:30PM</td>
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<td>User Interface Design Lab</td>
<td>User Interface</td>
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<td>New UI and Cocoa Lab</td>
<td>Frameworks Lab B</td>
<td>Wednesday 3:15PM</td>
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<td>Cocoa Lab</td>
<td>Frameworks Lab B</td>
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<td>Interface Builder and Live Views Lab</td>
<td>Tools Lab C</td>
<td>Wednesday 9:00AM</td>
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<td>Xcode and Interface Builder Lab</td>
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