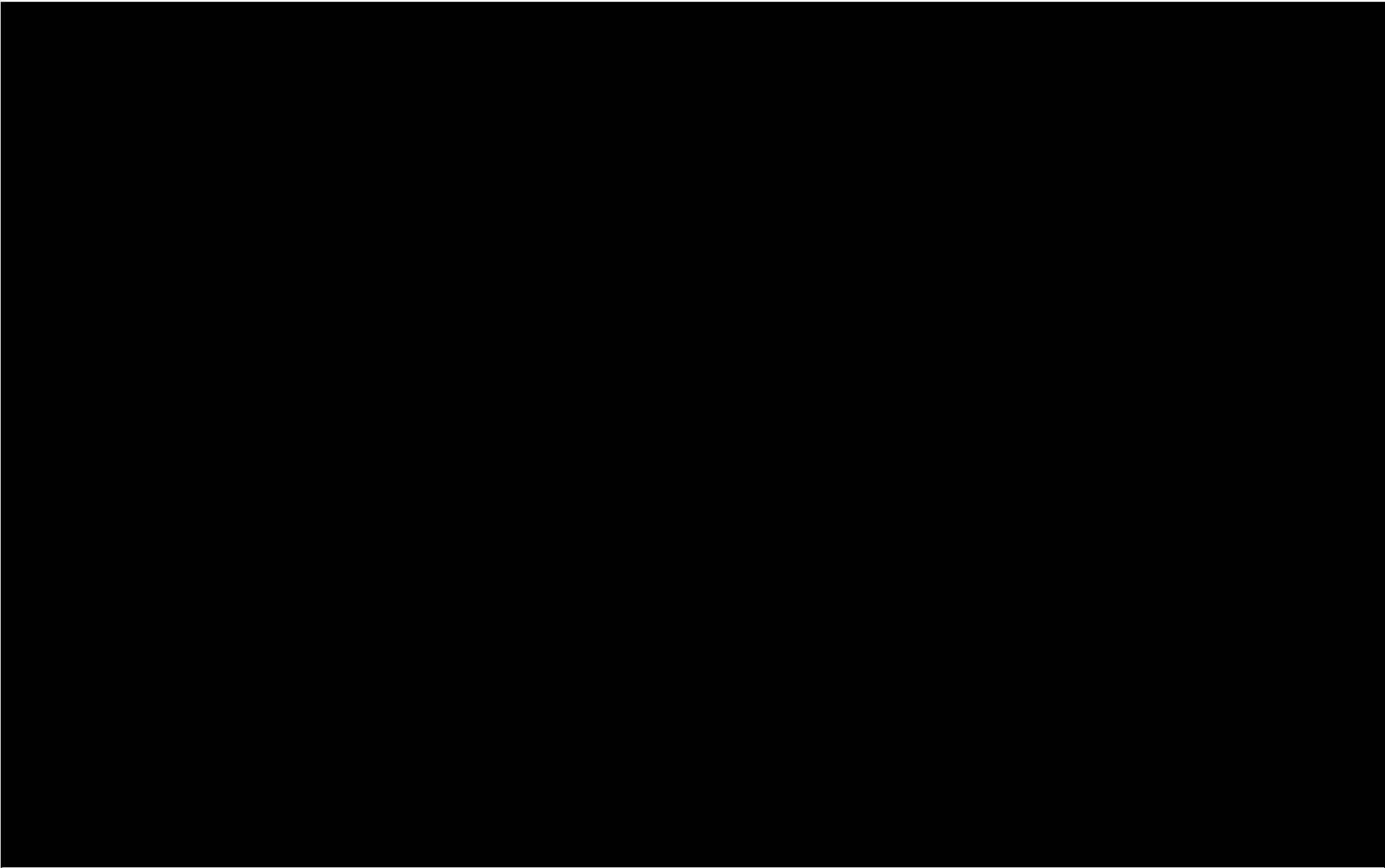




Creating Content with iAd JS

Part 1

Dean Jackson
Apple Employee





INTERACTION

**WEB
ADVERTISING**



**TV
ADVERTISING**

EMOTION



iAd JS

iAd JS



iAd JS

Write less code

Highly customizable

HTML5

HTML *@font-face* *Manifests* *Flexible Box Layout*
CORS / Access Control *JPG* *Web Workers* *<video>*
SVG *Animations* *JavaScript* *Drag and Drop*
 DOM *WAI-ARIA*
DOM Storage *Transforms*
 CSS *Native JSON Parsing*
Media Queries *data: URIs*
MPEG *<audio>* *Web SQL Database* *Offline applications*
CSS Selectors API *Touch* *Cross-document messaging*
GeoLocation *PNG* *Canvas* *Transitions*

HTML5

HTML5



HTML5

iAd JS

This Session
Next Session

Build an iAd using iAd IC
Dig into the iAd JS Framework

Demo

Agenda

- 1 Constructing an Engaging Banner**
- 2 Building the Main Advertising Unit**
- 3 Enhancements Through iAd APIs**
- 4 Creating Custom Components**

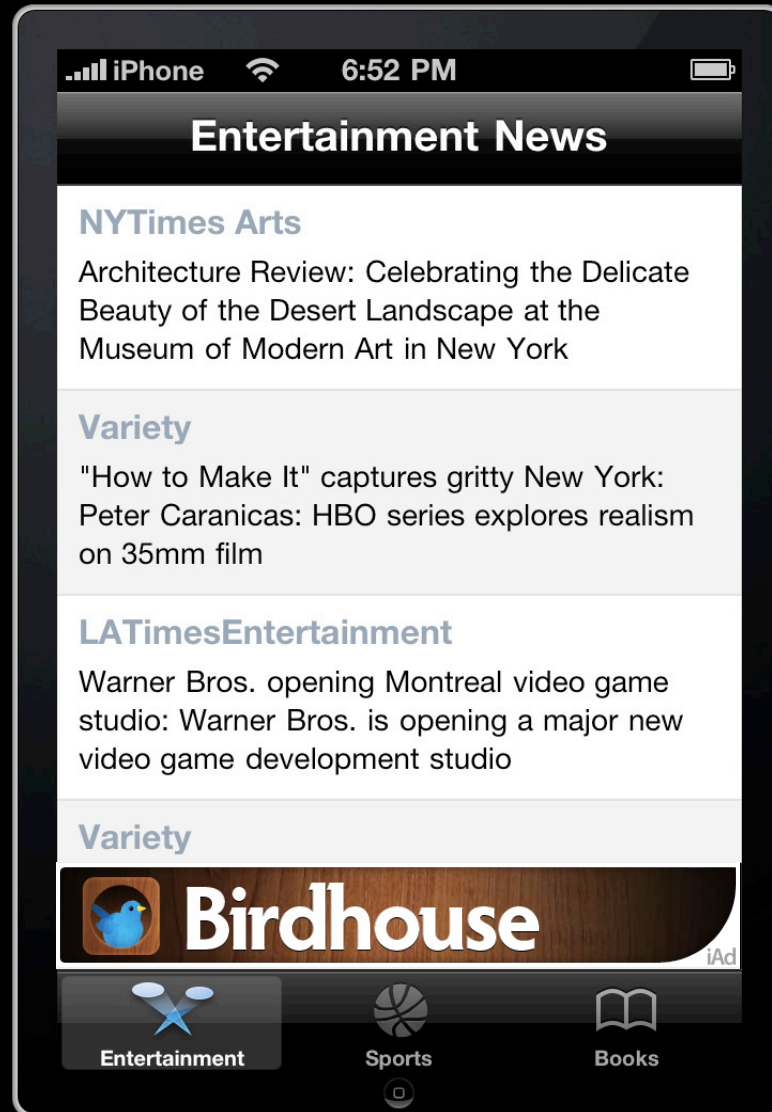
1. Banners

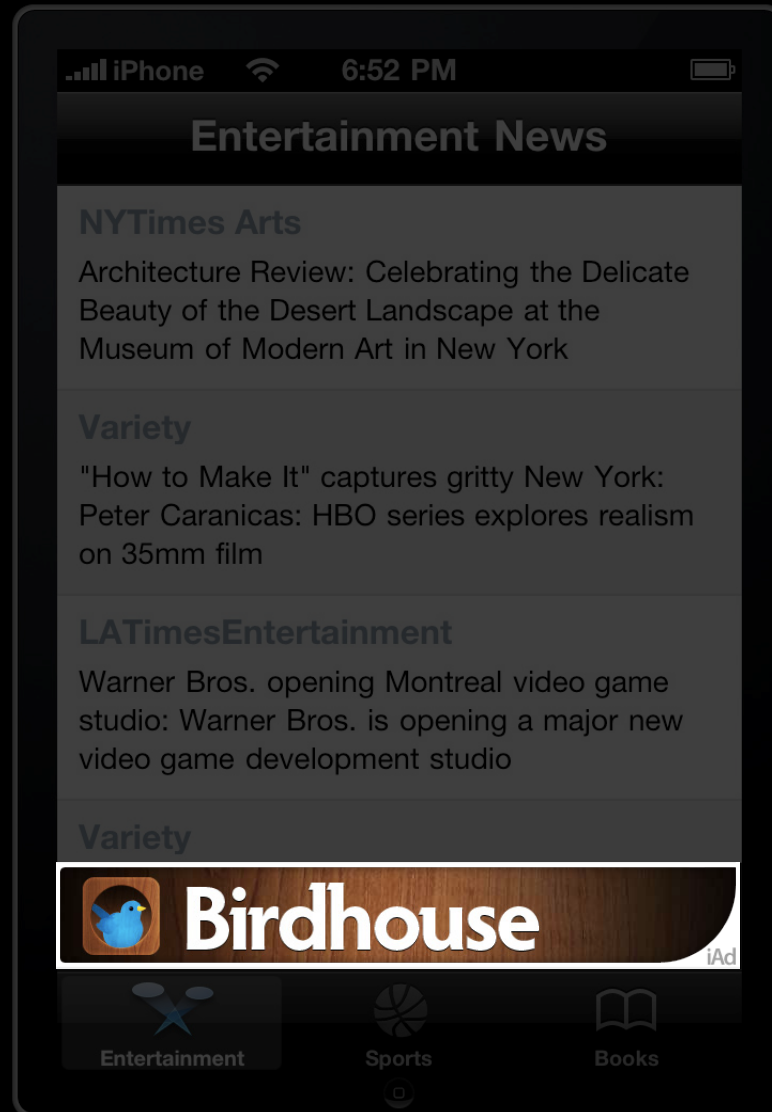
Engaging the user

Make a Great Banner

Engage the user

- The banner is the first interaction with your product, and first impressions count
- The better the banner, the more likely you are to get clicks
- Balance between hooking the user and annoying them









Frame provided
by iAd system



Creative content



— Creative content

iAd Banners

- Predefined sizes and orientations
 - 320x50 in portrait
 - 480x32 in landscape
- The iAd system draws the frame
- The creative content is your playground
 - A directory with HTML
 - A static image
 - Size of the banner
 - Full screen (banner will show a slice)

HTML in Banners

- Use any HTML feature, including animations
 - CSS provides a great solution for animation
 - Avoids the need for scripting in many cases
- Keep your banner as small as possible
 - Avoid a large JavaScript library
- Use CSS effects for styling
- Banners are **not** interactive
 - The user click is caught by the system and launches the main advertisement



Agenda

- 1 Constructing an Engaging Banner**
- 2 Building the Main Advertising Unit
- 3 Enhancements Through iAd APIs
- 4 Creating Custom Components

Demo

2. Building the Main Advertising Unit



User

Safari

Web Content

The Internet



User

Safari

Web Content

The Internet



User

iOS Native App

iAd Framework

iAd Content

iAd
Network

The
Internet



iAd Tester.app



developer.apple.com/iad



Mini Apps

Applications developed with HTML5

- Designed more as a cinematic experience than a functional unit
- ...but not always

Application code is not dynamic

- Static files are sent from the iAd network
- All customization must be done by JavaScript

Mini Apps need a framework

- iAd JS provides the structure

index.html

```
<!doctype html>
<html>
<head>
  <title>Treetop Realty</title>

  <meta http-equiv="Content-type" content="text/html; charset=utf-8">
  <meta name="viewport" content="width=device-width, user-scalable=no">

  <link rel="stylesheet" href="iAd/iAd.css">
  <script type="text/javascript" src="iAd/iAd.js" charset="utf-8"></script>

  <link rel="stylesheet" href="css/main.css">
  <script type="text/javascript" src="js/main.js" charset="utf-8"></script>

</head>
<body>
</body>
</html>
```

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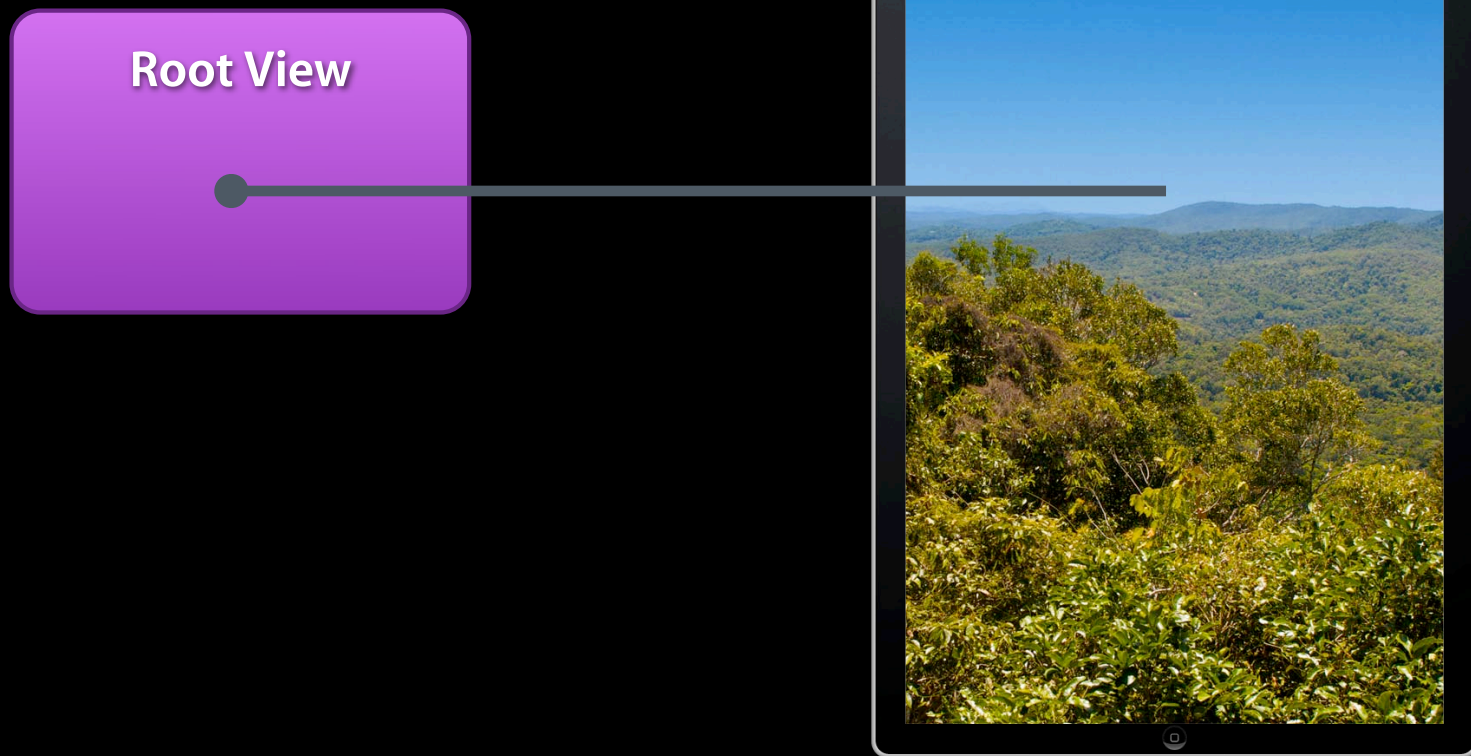
</head>
<body>
</body>
</html>
```

ADRootViewController

The main application entry point

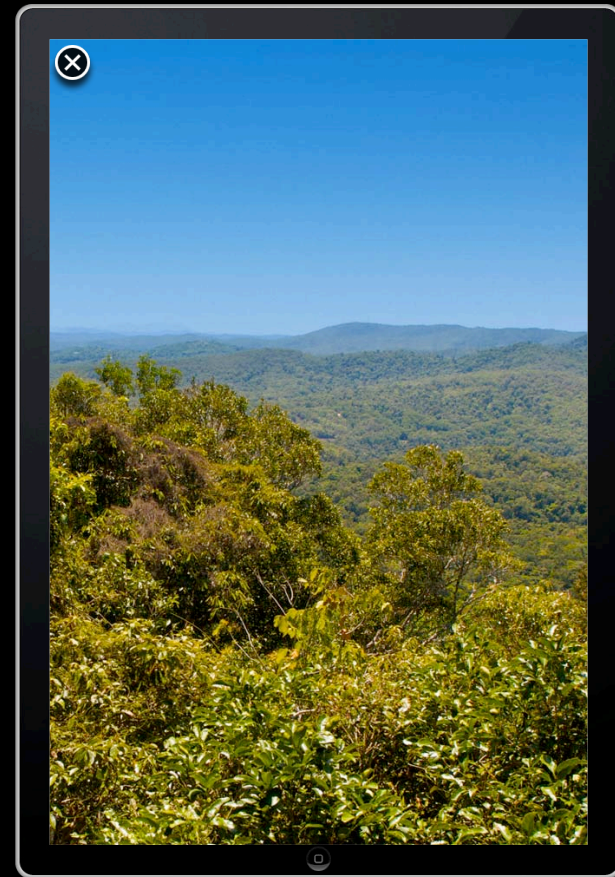
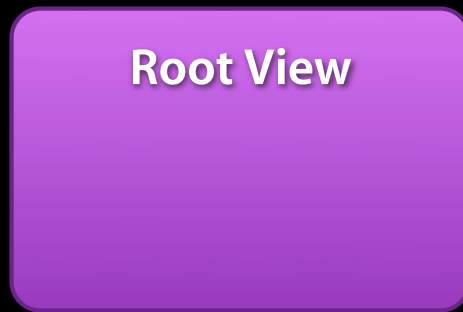
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The main application entry point



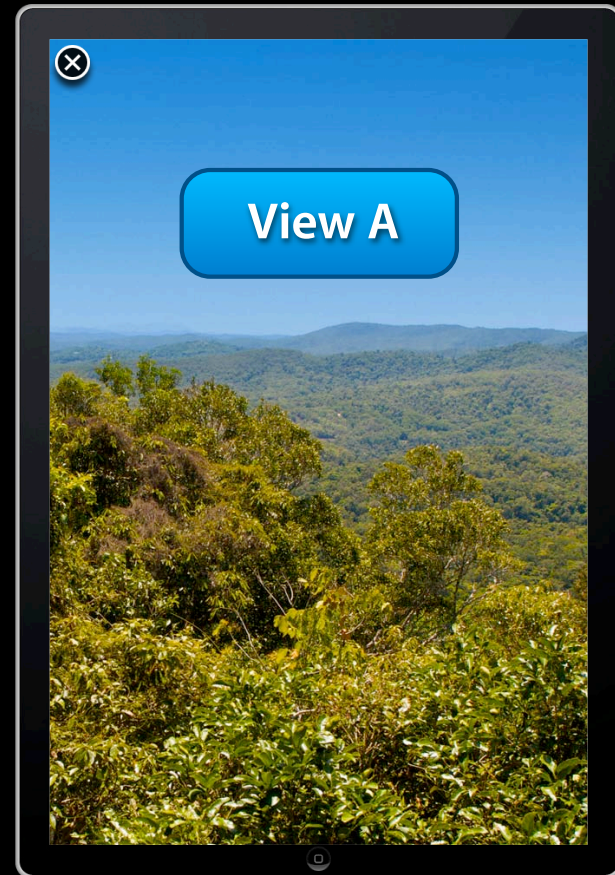
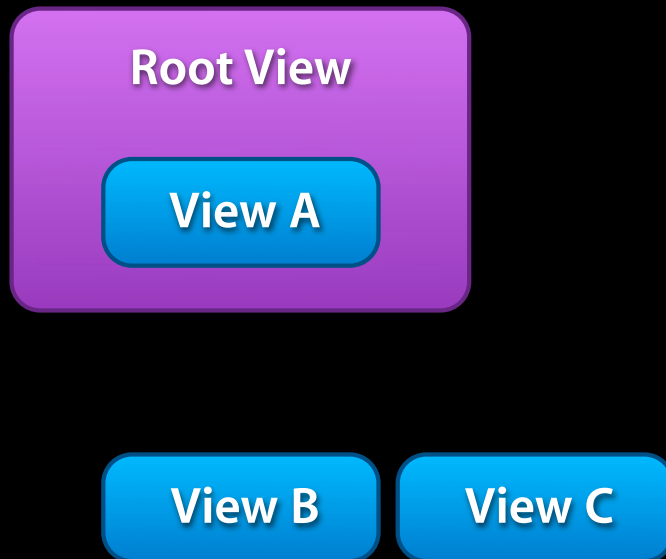
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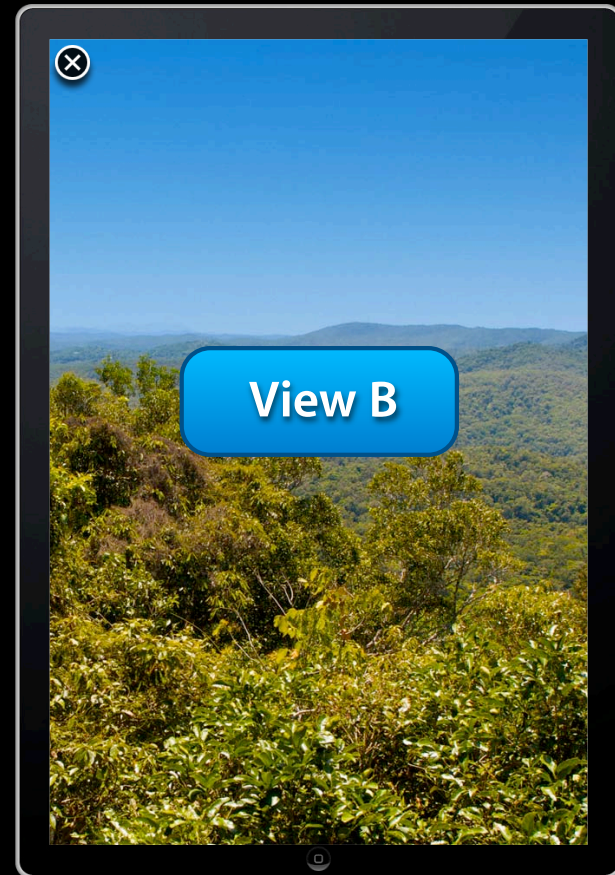
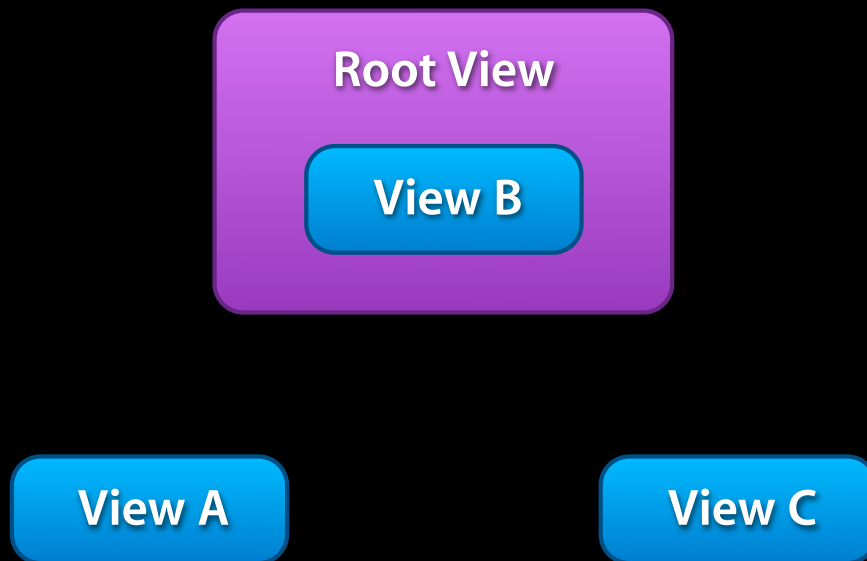
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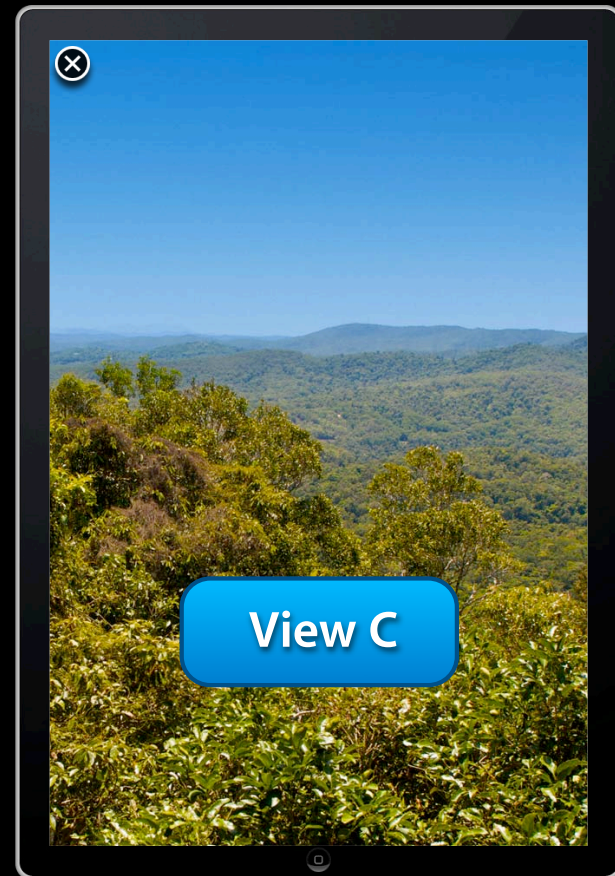
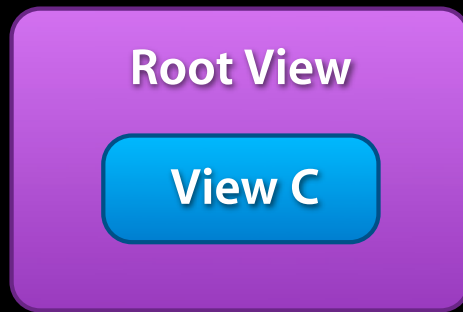
ADRootViewController

The main application entry point



ADRootViewController

The main application entry point



main.js

```
ApplicationController.superclass = ADRootViewController;  
  
function ApplicationController() {  
    this.menu = new MenuController();  
    ADRootView.sharedRoot.addSubview(this.menu.view);  
  
};  
  
ADClass(ApplicationController);  
  
var controller;  
  
window.addEventListener('DOMContentLoaded', function () {  
    controller = new ApplicationController();  
}, false);
```

main.js

```
ApplicationController.superclass = ADRootViewController;
```

```
function ApplicationController() {
```

```
    this.menu = new MenuController();
```

```
    ADRootView.sharedRoot.addSubview(this.menu.view);
```

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};
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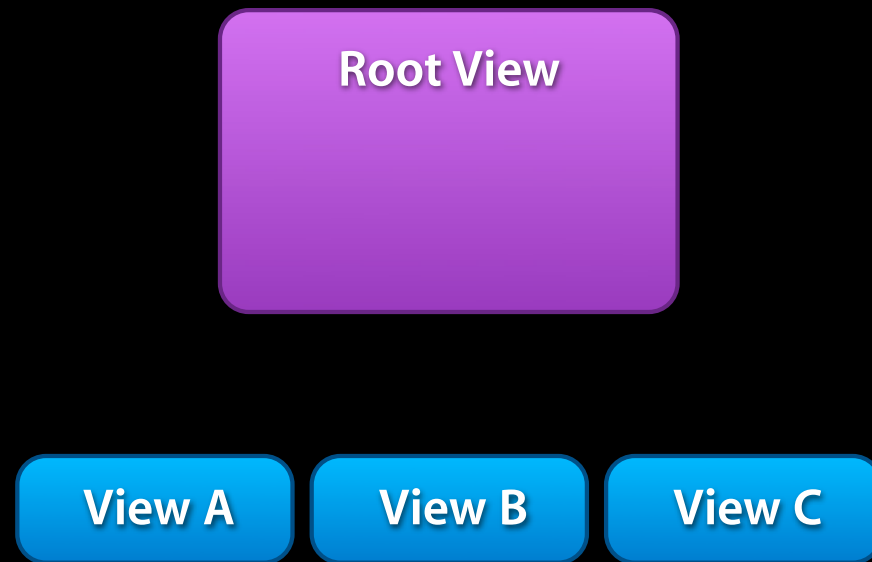
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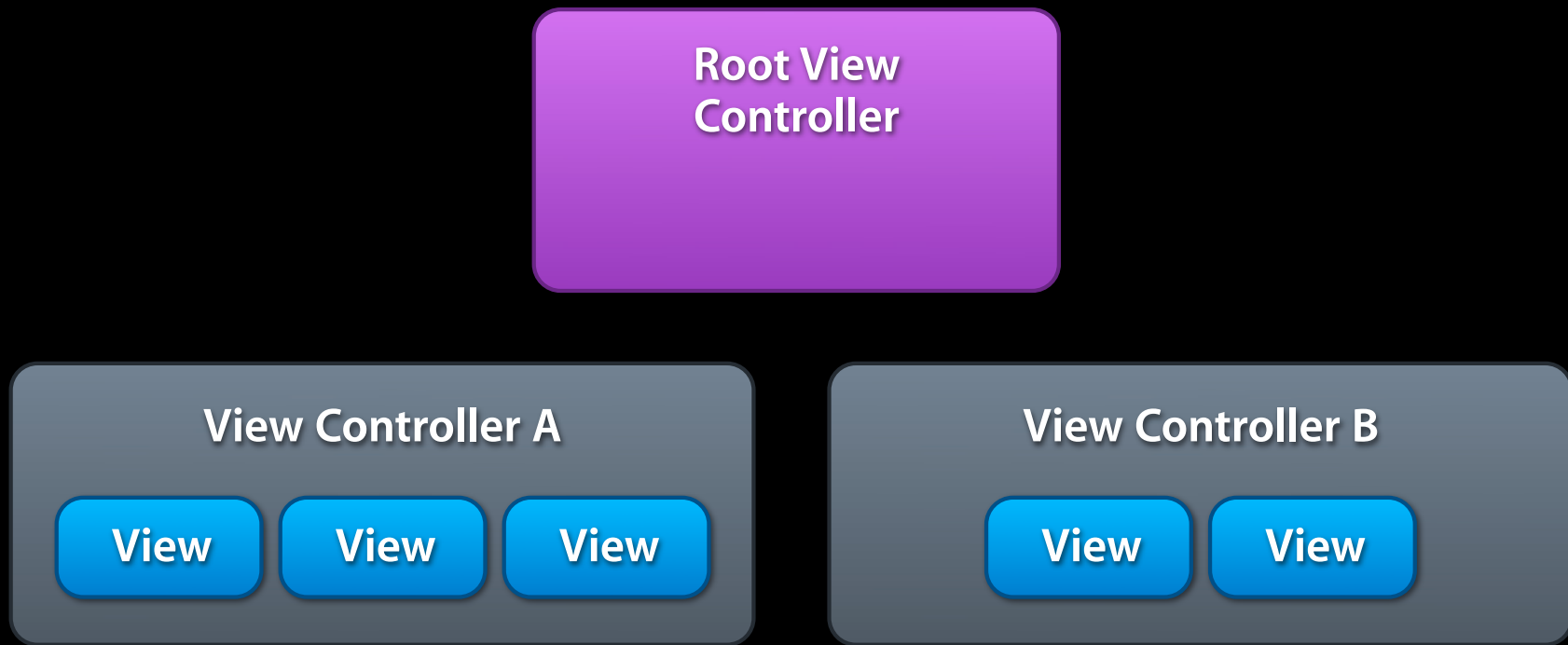
View Controllers

A modular approach to application design

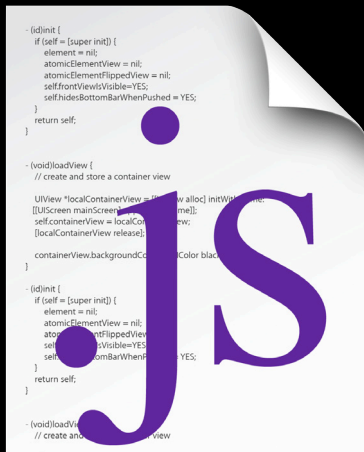


View Controllers

A modular approach to application design



MenuViewController



Logic

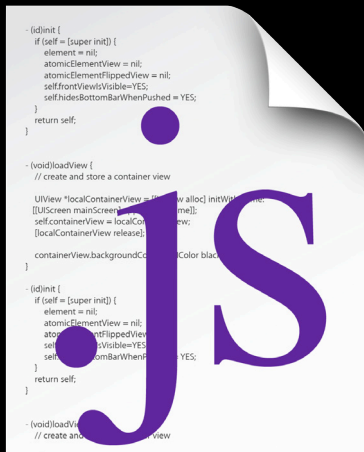


View



Style

MenuViewController



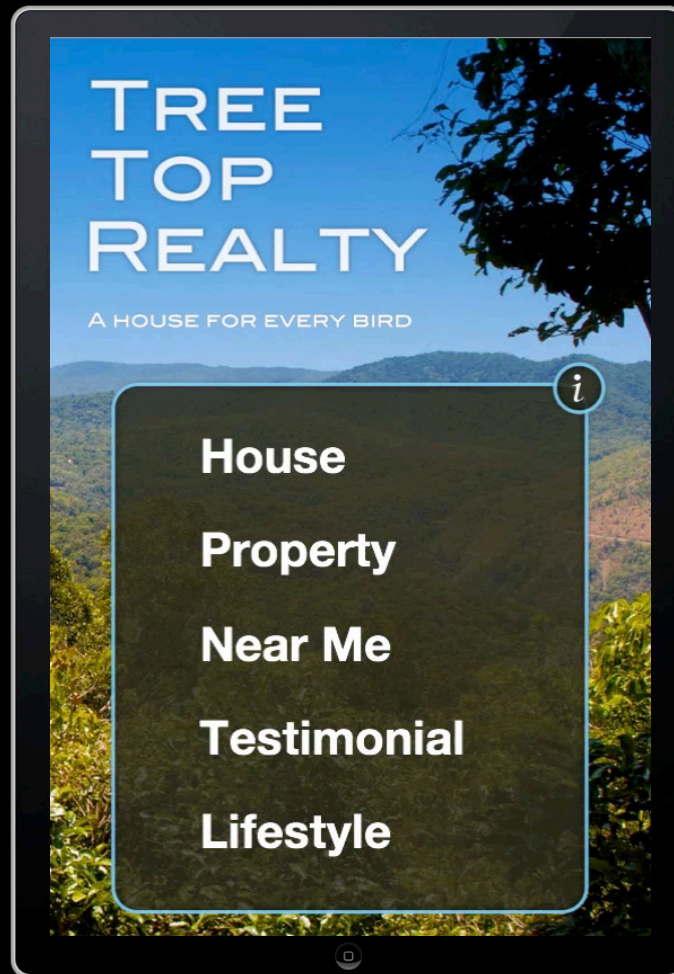
menu.js



menu.html



menu.css



menu.js

```
var MenuConfiguration = {  
  id : 'menu',  
  requiredFileURIs : {  
    contentView : 'views/menu.html'  
  }  
};
```

```
MenuController.superclass = ADViewController;  
MenuController.synthesizedProperties = ['visible', 'delegate'];
```

```
function MenuController() {  
  this.callSuper(MenuConfiguration);  
};
```

menu.js

```
var MenuConfiguration = {
  id : 'menu',
  requiredFileURIs : {
    contentView : 'views/menu.html'
  }
};

MenuController.superclass = ADViewController;
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```

MenuViewController

- `MenuController.synthesizedProperties = ['visible', 'delegate'];`

Synthesized property **visible**

- `menu.visible = true;`

Synthesized property **delegate**

- `menu.delegate.menuButtonWasTouched(buttonIndex);`

menu.html

```
<div id="menu" class="ad-view">  
  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="House"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Property"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Near Me"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Testimonial"></div>  
  <div class="ad-button menu-item"  
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  <div class="ad-button menu-toggle"></div>  
  
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```



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```



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  <div class="ad-button menu-toggle"></div>  
  
</div>
```



menu.css

```
#menu-container {  
  z-index: 1;  
}  
  
#menu {  
  position: absolute;  
  left: 60px;  
  top: 150px;  
  width: 200px;  
  height: 300px;  
  -webkit-transform: translateY(550px);  
  -webkit-transition: -webkit-transform 400ms;  
}  
  
body.menu-visible #menu .menu-wrapper {  
  -webkit-transform: translateY(0px);  
}
```

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#menu-container {  
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menu.css

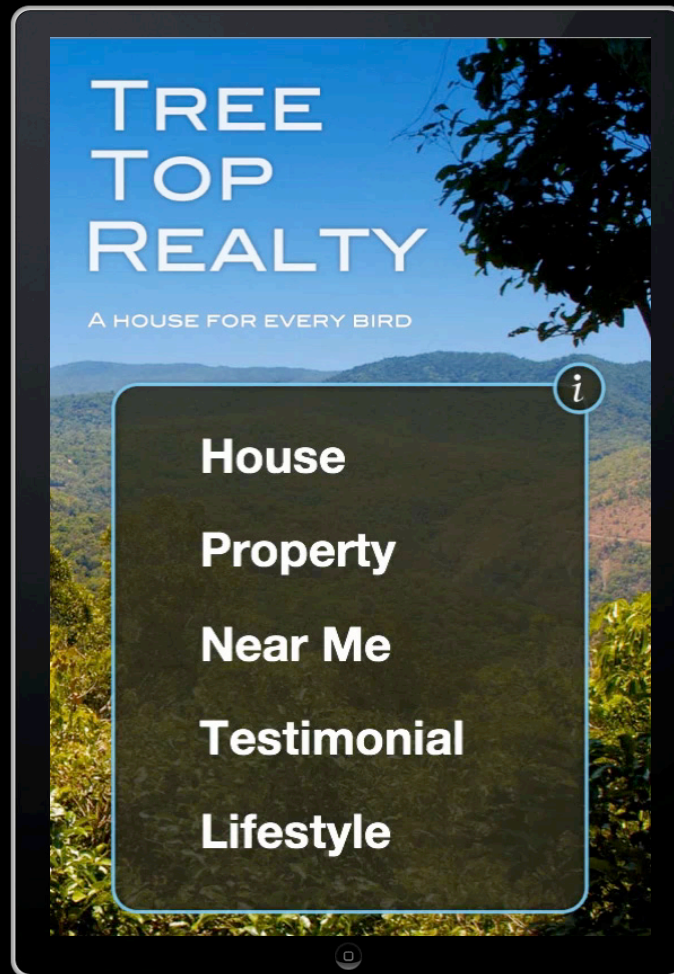
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  -webkit-transition: -webkit-transform 400ms;  
}
```

```
body.menu-visible #menu .menu-wrapper {  
  -webkit-transform: translateY(0px);  
}
```



menu.js

```
MenuController.prototype.setVisible = function (newVisible) {  
  if (newVisible) {  
    document.body.className += 'menu-visible';  
  } else {  
    document.body.className = document.body.className.replace('menu-visible', '');  
  }  
  this._visible = newVisible;  
};
```

menu.js

```
MenuController.prototype.contentViewDidLoad = function () {  
    this.callSuper();  
  
    var menuToggle = this.view.layer.querySelector(".menu-toggle");  
    mainToggle.addEventListener(ADControlTouchUpInsideEvent, this, false);  
  
    var buttons = this.view.layer.querySelectorAll(".menu-item");  
    var button;  
    for (var i=0; i < buttons.length; i++) {  
        button = buttons[i];  
        button.index = i;  
        button.addEventListener(ADControlTouchUpInsideEvent, this, false);  
    }  
};
```

menu.js

```
MenuController.prototype.contentViewDidLoad = function () {  
  this.callSuper();
```

```
  var menuToggle = this.view.layer.querySelector(".menu-toggle");  
  mainToggle.addEventListener(ADControlTouchUpInsideEvent, this, false);
```

```
  var buttons = this.view.layer.querySelectorAll(".menu-item");  
  var button;  
  for (var i=0; i < buttons.length; i++) {  
    button = buttons[i];  
    button.index = i;  
    button.addEventListener(ADControlTouchUpInsideEvent, this, false);  
  }  
};
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MenuController.prototype.contentViewDidLoad = function () {  
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    mainToggle.addEventListener(ADControlTouchUpInsideEvent, this, false);  
  
    var buttons = this.view.layer.querySelectorAll(".menu-item");  
    var button;  
    for (var i=0; i < buttons.length; i++) {  
        button = buttons[i];  
        button.index = i;  
        button.addEventListener(ADControlTouchUpInsideEvent, this, false);  
    }  
};
```

menu.js

```
MenuController.prototype.handleEvent = function (event) {
  this.callSuper(event);

  if (event.type == ADControlTouchUpInsideEvent) {
    if (event.currentTarget.hasClassName('menu-item')) {
      this.delegate.menuButtonWasTouched(this, event.currentTarget.index);
    } else {
      this.visible = !this.visible;
    }
  }
};
```

menu.js

```
MenuController.prototype.handleEvent = function (event) {  
  this.callSuper(event);
```

```
  if (event.type == ADControlTouchUpInsideEvent) {
```

```
    if (event.currentTarget.hasClassName('menu-item')) {
```

```
      this.delegate.menuButtonWasTouched(this, event.currentTarget.index);
```

```
    } else {
```

```
      this.visible = !this.visible;
```

```
    }
```

```
  }
```

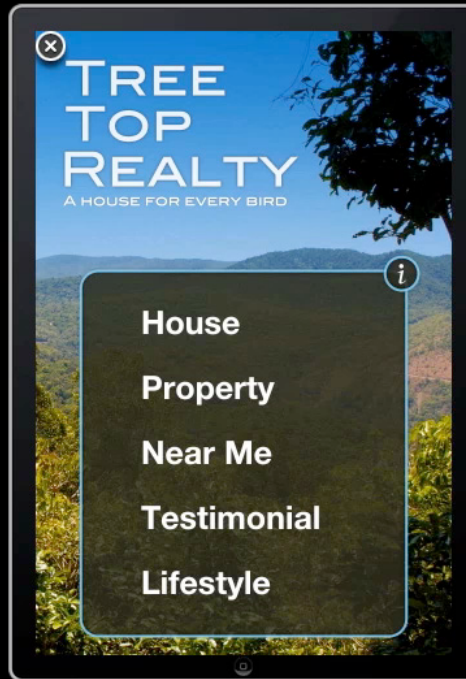
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      this.delegate.menuButtonWasTouched(this, event.currentTarget.index);  
    } else {  
      this.visible = !this.visible;  
    }  
  }  
};
```

Adding More View Controllers

```
function ApplicationController() {  
  
    this.menu = new MenuController();  
    this.menu.delegate = this;  
    ADRootView.sharedRoot.addSubview(this.menu.view);  
  
    this.house = new HouseController();  
    this.property = new PropertyController();  
    this.maps = new MapsController();  
    this.lifestyle = new LifestyleController();  
    this.testimonial = new TestimonialController();  
}
```

Transitioning to Views

```
ApplicationController.prototype.menuButtonWasTouched =  
  function (menu, index) {  
  
    this.menu.visible = false;  
  
    // work out which view controller to show  
    var viewControllerToShow = .... ;  
  
    this.transitionController.  
      setVisibleViewControllerAnimated(viewControllerToShow, true);  
  
  };
```

That Was the Hard Way

Most applications transition between View Controllers

- The iAd JS HTML syntax looks for **ad-transitions-to** attribute
- Allows you to remove all the event listening, delegate dispatch and view processing

menu.html

```
<div id="menu" class="ad-view">  
  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="House"  
    ad-transitions-to="house"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Property"  
    ad-transitions-to="property"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Near Me"  
    ad-transitions-to="maps"></div>  
  
  ...  
  
</div>
```



menu.html

```
<div id="menu" class="ad-view">  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="House"  
    ad-transitions-to="house"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Property"  
    ad-transitions-to="property"></div>  
  <div class="ad-button menu-item"  
    ad-title-for-normal-state="Near Me"  
    ad-transitions-to="maps"></div>  
  ...  
</div>
```



First Impressions Count!

Don't make the user wait

Banner

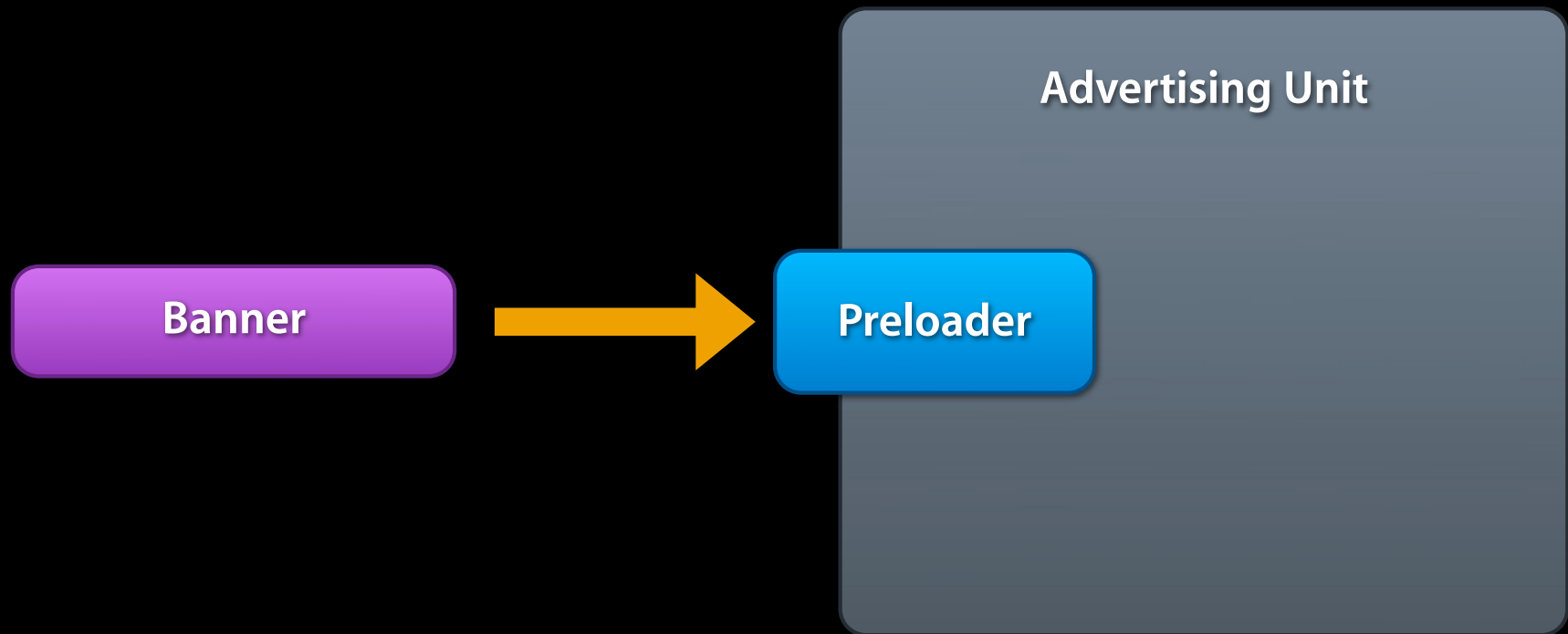


Advertising Unit



First Impressions Count!

Don't make the user wait



Building the Advertising Unit with iAd JS

What have you learned in this section?

- Structure program around ViewControllers
- Visual states reflected in CSS with classes
- Give a good first impression by boot-strapping

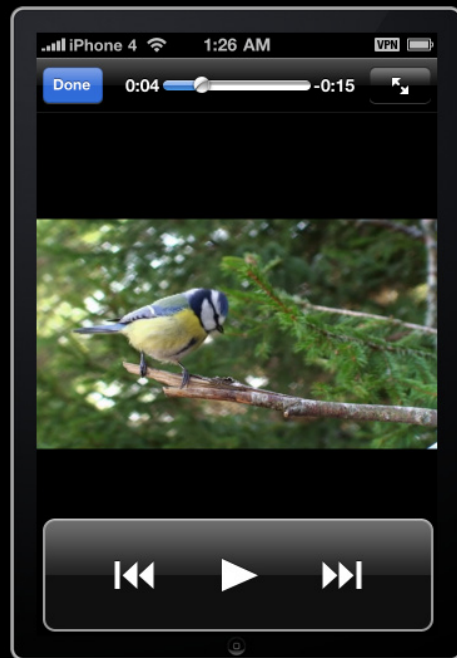
Agenda

- 1 Constructing an Engaging Banner
- 2 Building the Main Advertising Unit**
- 3 Enhancements Through iAd APIs
- 4 Creating Custom Components

3. iAd Enhancements

Going beyond the Web

Playing Video in iAd



webkit-playsinline

The `window.ad` Object

- iAd exposes an `ad` property on the `window` object
 - Set user wallpaper and save images to the photo library
 - Display a map with annotations and custom pins
 - Purchase content from the iTunes store
 - Respond to shake events
 - Statistics

Saving Images

```
window.ad.setImageAsWallpaper(imageURL, "Set Wallpaper", listener);
```

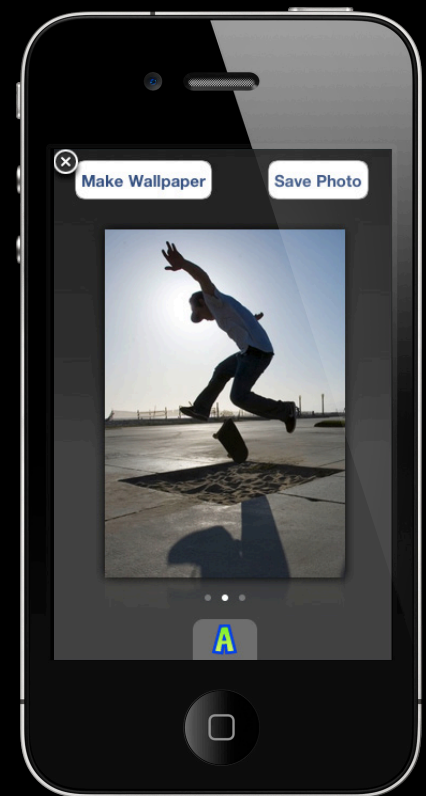
```
window.ad.writeImageToSavedPhotosAlbum(imageURL, listener);
```

```
setImageAsWallpaperFailed = function (url, code) { };
```

```
setImageAsWallpaperSucceeded = function (url) { };
```

```
writeImageToSavedPhotosFailed = function (code) { };
```

```
writeImageToSavedPhotosSucceeded = function () { };
```



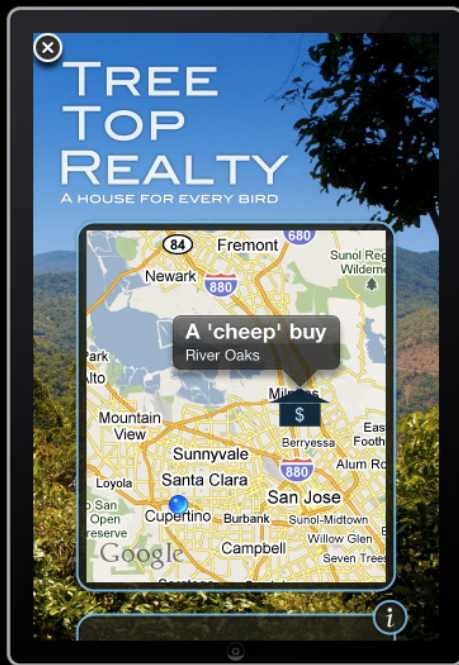
Using Maps

Talking to MapKit

- Maps are drawn above all content
- Add your own annotations
- Custom pin images
- Show the current location
- Zoom to a region

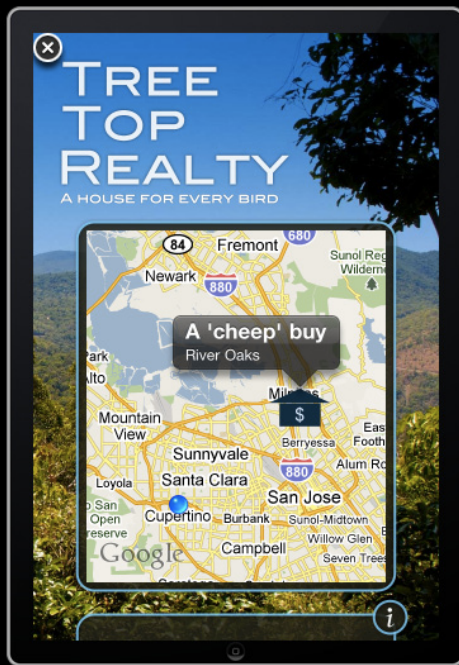


Showing the Map



```
MapsController.prototype.viewDidAppear =  
    function() {  
  
        window.ad.map.listener = this;  
        window.ad.map.hidden = false;  
        window.ad.map.frame =  
            new MapRect(x, y, width, height);  
  
        // add annotations  
        ...  
  
        // where am I?  
        window.ad.map.showsUserLocation = true;  
    };
```


Showing the Map



```
MapsController.prototype.viewDidAppear =  
function() {
```

```
    window.ad.map.listener = this;  
    window.ad.map.hidden = false;  
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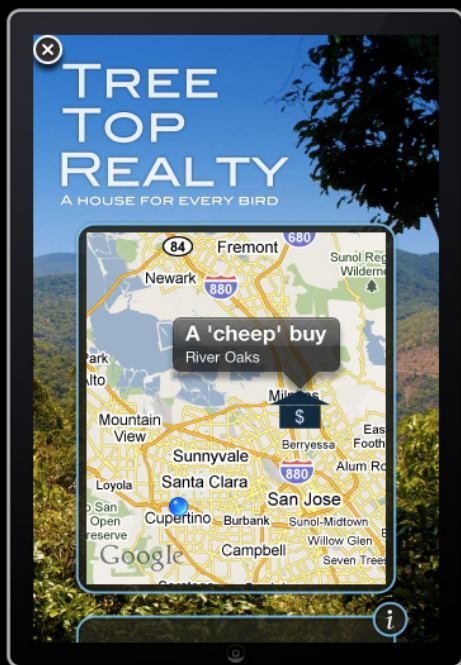
```
    // add annotations
```

```
    ...
```

```
    // where am I?
```

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    window.ad.map.showsUserLocation = true;  
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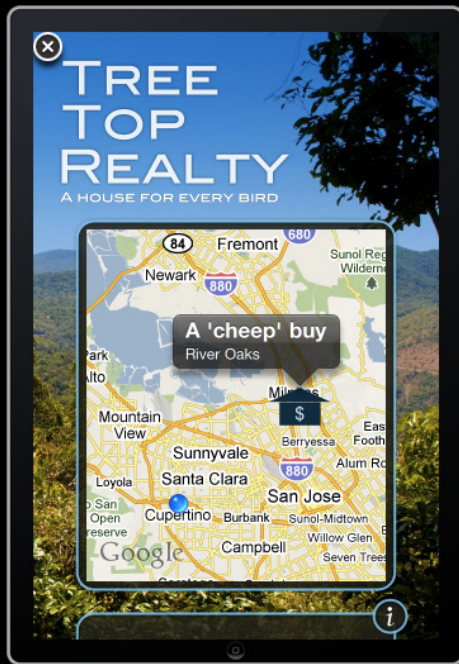
```
    // add annotations
```

```
    ...
```

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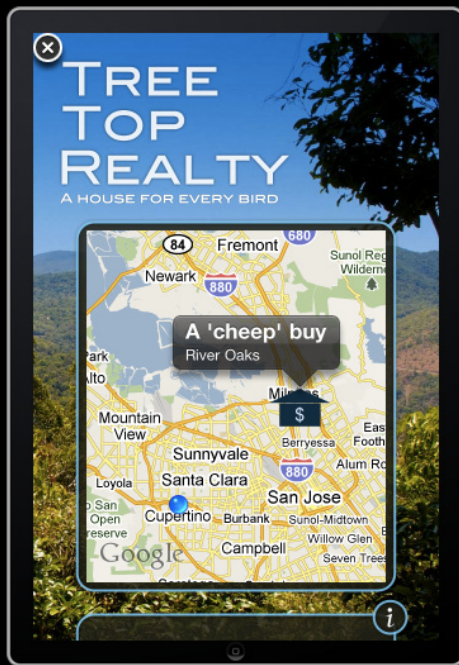
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```
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    ...  
  
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  };
```

Annotations



```
var annotation = new MapAnnotation(  
    lat, long,  
    name, description,  
    id, callbackFunction,  
    pinImageUrl);  
  
annotation.setCenterOffset(-9, -16);  
  
window.ad.map.addAnnotation(annotation);
```

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Annotations

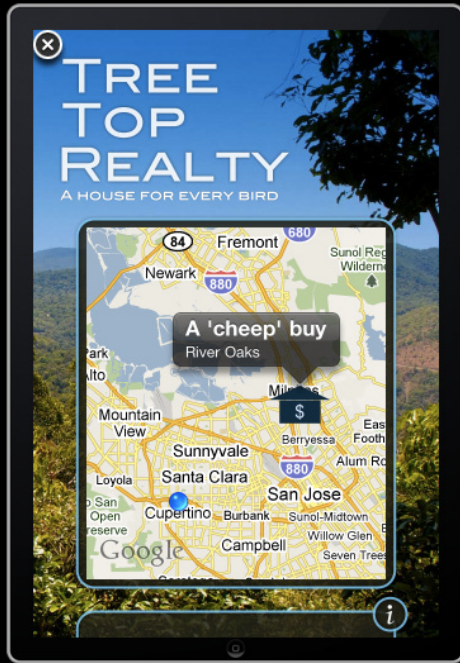


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    name, description,  
    id, callbackFunction,  
    pinImageUrl);
```

```
annotation.setCenterOffset(-9, -16);
```

```
window.ad.map.addAnnotation(annotation);
```

Hiding the Map



```
MapsController.prototype.viewWillDisappear =  
function() {  
  
    window.ad.map.hidden = true;  
  
};
```

Purchasing Content from iTunes

iOS Apps

iBooks

Songs

Movies


- 1 Register all items to be sold with iTunes
- 2 Look up the items to get price information
- 3 Initiate a purchase and respond to feedback

iTunes

Search Store

Music Movies TV Shows App Store Podcasts Audiobooks iTunes U \$10.09 dino@apple.com

App Store > Productivity > Apple Inc.



Keynote Remote

Description

With Keynote Remote, you can control your Keynote '09 slide presentation on your Mac from your iPod touch or iPhone.

Swipe to advance or return to the previous slide. In portrait mode, see your presenter notes on your iPod touch or iPhone. In...

...More

[Apple Inc. Web Site >](#) [Keynote Remote Support >](#) [Application License Agreement >](#)

\$0.99 Buy App

Category: Productivity
Updated: Mar 26, 2009
Current Version: 1.1
0.5 MB
Languages: English, Chinese, Danish, Dutch, Finnish, French, German, Italian, Japanese, ...
Seller: Apple Inc.
© 2009 Apple Inc. ...More


Rated 4+

Requirements: Compatible with iPhone, iPod touch, and iPad. Requires iPhone OS 2.0 or later.

What's New in Version 1.1

Version 1.1 addresses the reliability of the connection with Keynote '09.

iPhone Screenshots



Options Slide 8 of 13

LIGHTWEIGHT PERFORMANCE

- Marchesini forged wheels
- Super lightweight front and rear

iTunes

Search Store

Music Movies TV Shows **App Store** Podcasts Audiobooks iTunes U \$10.09 dino@apple.com

App Store > Productivity > Apple Inc.



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\$0.99 Buy App

Category: Productivity
 Updated: Mar 26, 2009
 Current Version: 1.1
 0.5 MB
 Languages: English, Chinese, Danish, Dutch, Finnish, French, German, Italian, Japanese, ...
 Seller: Apple Inc.
 © 2009 Apple Inc. ...More

Gift This App
 Add to Wish List
 Tell a Friend
Copy Link
 Share On Facebook
 Share On Twitter

Version 1.1

...es the reliability of the connection with Keynote '09.

Screenshots

Options Slide 8 of 13

LIGHTWEIGHT PERFORMANCE



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How to Find an iTunes Store ID

Movie

- <http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewMovie?id=356924097&s=143460>

Song

- <http://itunes.apple.com/us/album/tik-tok/id344796445?i=344796458>

Application

- <http://itunes.apple.com/us/app/keynote-remote/id300719251?mt=8>

Registration and Lookup

```
var storeItems = [356924097, 356924098];
window.ad.store.registerItemsForPurchase(storeItems);
for (var item in storeItems) {
    window.ad.store.lookupItemWithID(item, listener);
}

listener.storeItemLookupDidSucceed = function(item) {
    var offerId = item.offers[0].identifier;

    // You need to keep a reference to this offerId because
    // you use it later when purchasing
};

listener.storeItemLookupDidFail = function(storeID, errorCode) { };
```


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var storeItems = [356924097, 356924098];
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    var offerId = item.offers[0].identifier;

    // You need to keep a reference to this offerId because
    // you use it later when purchasing
};

listener.storeItemLookupDidFail = function(storeID, errorCode) { };
```

Purchasing a Store Item

```
window.ad.store.purchaseItemWithID(32748326532, offerId, listener);  
  
listener.storeItemPurchaseDidSucceed = function(storeID) { };  
  
listener.storeItemPurchaseDidFail = function(storeID, errorCode) { };
```

Purchasing a Store Item

```
window.ad.store.purchaseItemWithID(32748326532, offerId, listener);
```

```
listener.storeItemPurchaseDidSucceed = function(storeID) { };
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Purchasing a Store Item

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listener.storeItemPurchaseDidSucceed = function(storeID) { };
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```

Agenda

- 1 Constructing an Engaging Banner
- 2 Building the Main Advertising Unit
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4. Custom Components

Reusing your work with different visual styles

Demo

Wrapping Up

Summary

- iAds are HTML5 Mini Apps
- Use existing skills and tools to create them
- Make an awesome banner to interest the user
- The iAd JS framework helps you to create rich, highly-performing customizable content
- iAd provides APIs that allow ads to give additional benefit

More Information

Vicki Murley

Safari Technologies Evangelist
vicki@apple.com

iAd

<http://advertising.apple.com/>
<http://developer.apple.com/iad>

Documentation

iAd Programming Guide
iAd JS API Documentation
<http://developer.apple.com/>

Apple Developer Forums

<http://devforums.apple.com>

Related Sessions

Creating Content with iAd JS, Part 2	Marina Thursday 10:15AM	Next
Integrating Ads with iAd (Repeat)	Pacific Heights Friday 9:00AM	
Delivering Audio and Video Using Web Standards, Part 1 (Repeat)	Nob Hill Friday 10:15AM	
CSS Effects, Part 1: UI Elements and Navigation	Marina Tuesday 3:15PM	
CSS Effects, Part 2: Galleries and 3D Effects	Marina Tuesday 4:30PM	
Getting the Most Out of Safari Integrated Developer Tools	Marina Wednesday 11:30AM	

Labs

Safari on iPhone OS Lab

Internet and Web Lab B
Thursday 2:00PM

Q&A



