iAd Implementation Best Practices

Session 505

David Duncan
iOS Engineer

These are confidential sessions—please refrain from streaming, blogging, or taking pictures

Introduction

- What is iAd
- Mobile advertising 101
- Integrating the iAd network in your application
- Best practices with iAd

iAd Overview

iAd Overview

Developer benefits

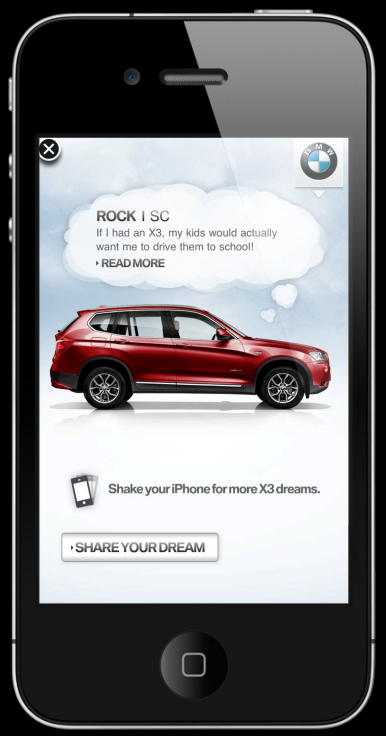
- Great ad experience
  - High quality
  - Integrated features

In-line audio/video

iAd Overview

Developer benefits

- Great ad experience
  - High quality
  - Integrated features



Accelerometer and gyro

iAd Overview

Developer benefits

- Great ad experience
  - High quality
  - Integrated features

In-ad downloads

iAd Overview

Developer benefits

- Great ad experience
  - High quality
  - Integrated features

iAd Overview

Developer benefits

- Great ad experience
- Self-contained
  - Built into iOS

iAd Overview

Developer benefits

- Great ad experience
- Self-contained
  - Built into iOS

iAd Overview

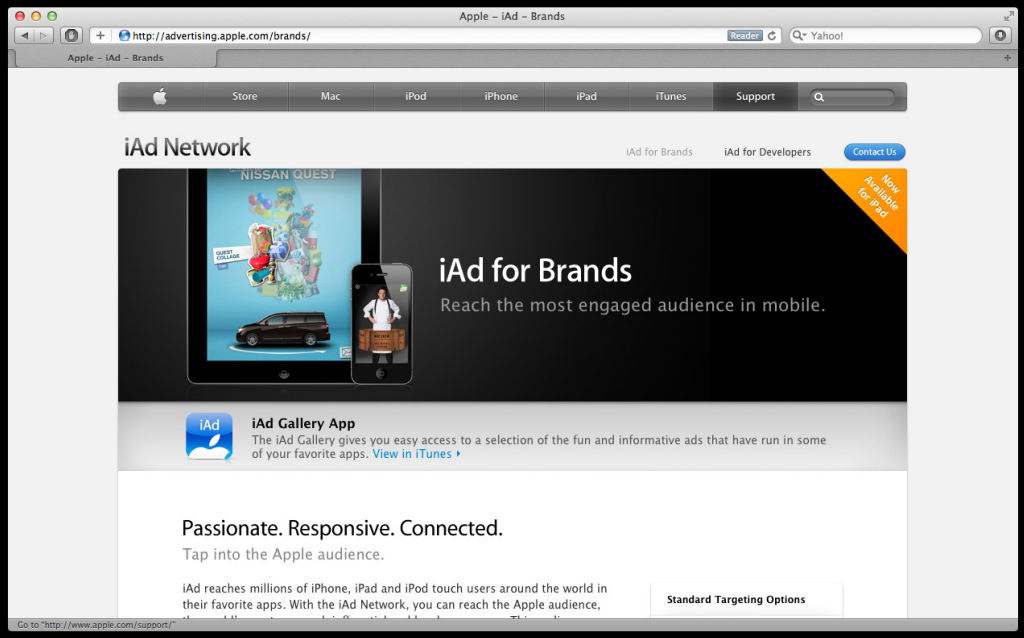
Developer benefits

- Great ad experience
- Self-contained
  - Built into iOS
  - Stays in your app

iAd Overview

Developer benefits

- Great ad experience
- Self-contained
- Well-known brands
  - More customer awareness
  - More engagement



iAd Overview

Developer benefits

- Great ad experience
- Self-contained
- Well-known brands
- Expanding globally

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iAd Overview

Developer benefits

- Great ad experience
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- Expanding globally
- Preserves privacy

iAd Overview

Developer benefits

- Great ad experience
- Self-contained
- Well-known brands
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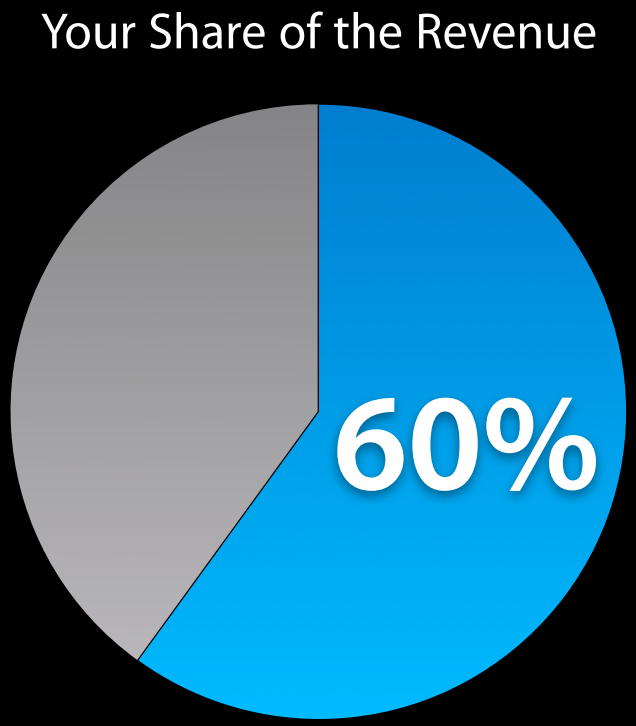
- Preserves privacy
- Easy to implement

iAd Overview

Developer benefits

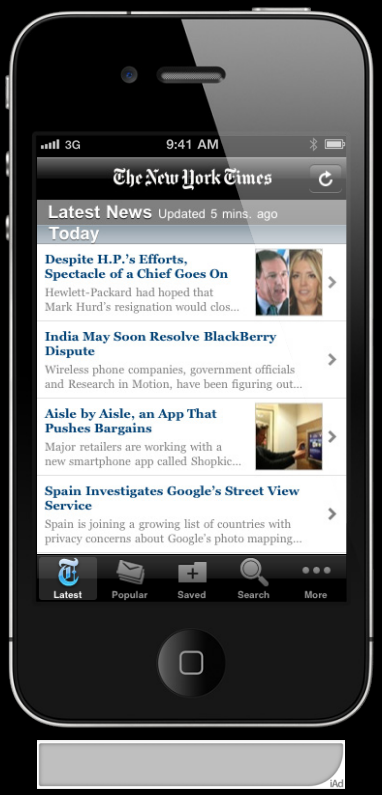
- Great ad experience
- Self-contained
- Well-known brands
- Expanding globally
- Preserves privacy
- Easy to implement
- ✓ Provides revenue

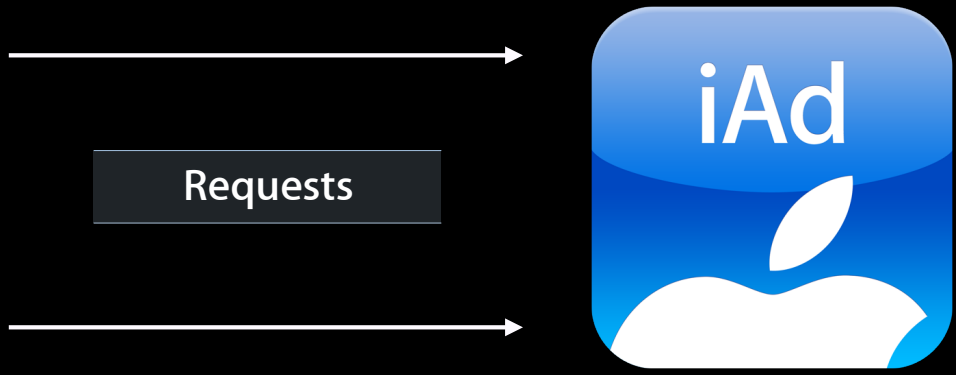


Mobile Advertising 101

Mobile Advertising 101

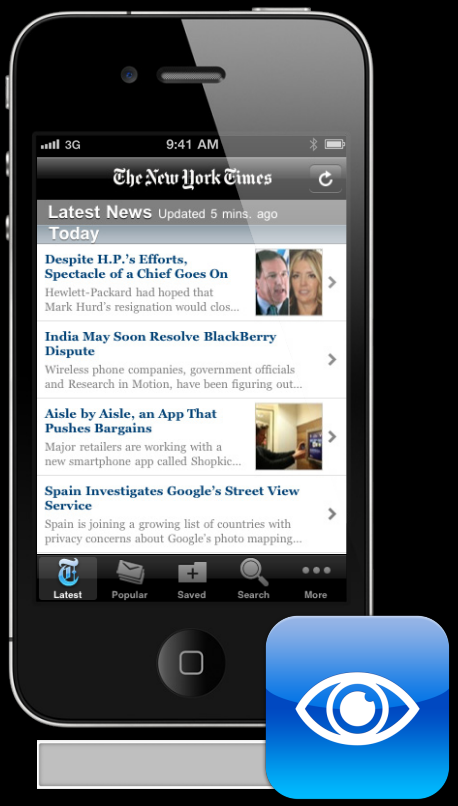
Requests





Mobile Advertising 101

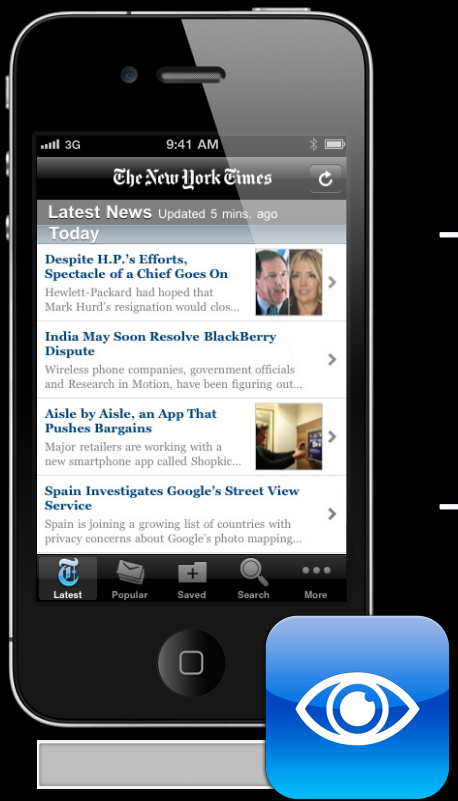
Impressions



Impression

Mobile Advertising 101

Fill Rate



Impression

Requests	3
Impressions	2

Impressions ÷ Reque

2 ÷ 3

Mobile Advertising 101

Clicks and Click-through Rate

Impressions	2
Clicks	

Mobile Advertising 101

Clicks and Click-through Rate

Impressions	2
Clicks	1

Clicks	÷	Impressions	=	CTR
1	÷	2	=	50%

Mobile Advertising 101

Advertisers

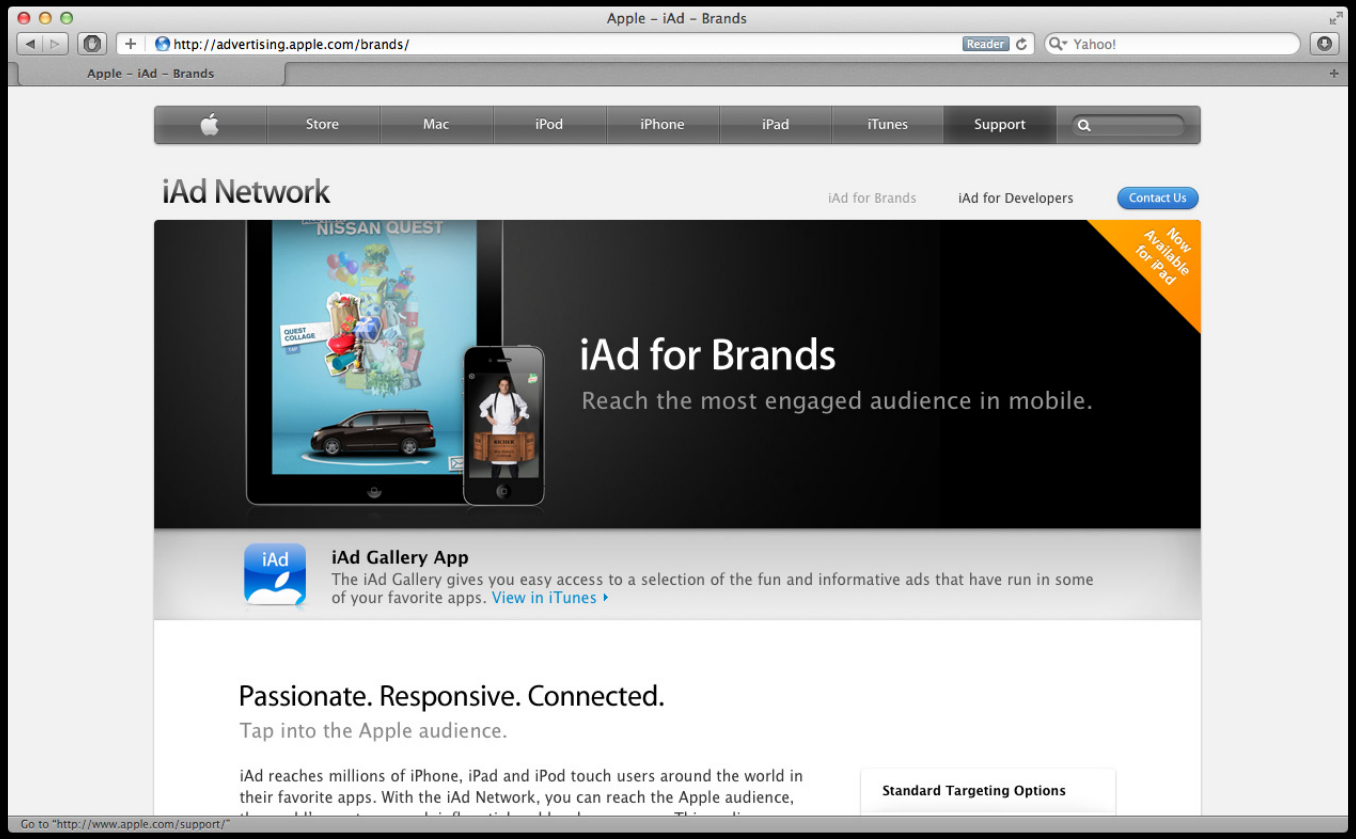
Requests
Impressions
Fill Rate

Click-Through Rate

Revenue
eCPM

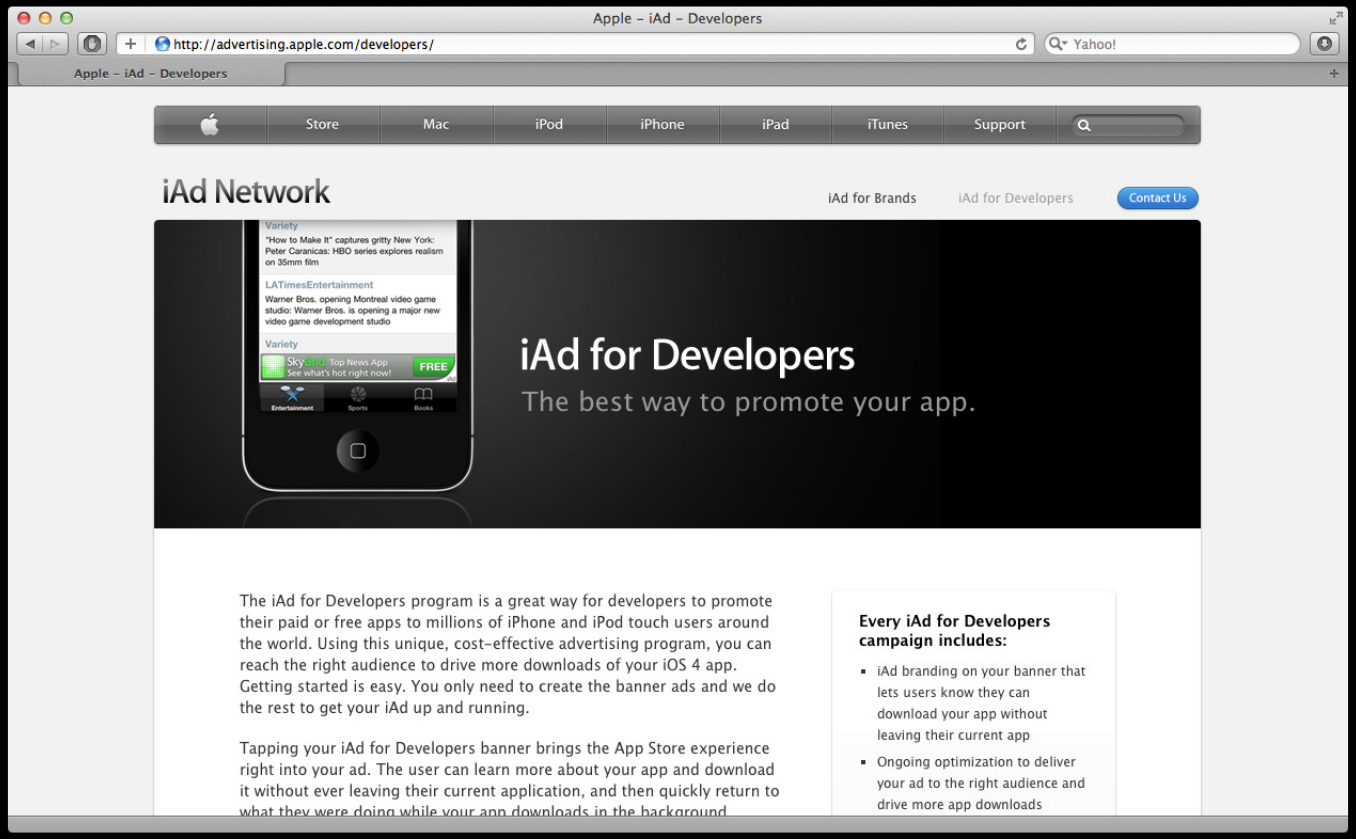
Mobile Advertising 101

iAd campaigns



Mobile Advertising 101

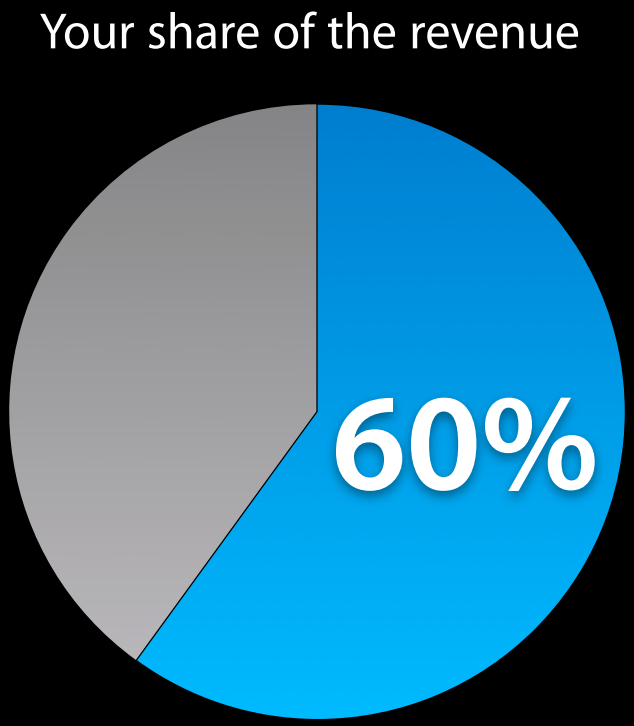
iAd campaigns



iAd Network

Revenue

- Brand advertisements
  - Advertisers pay per Impression and Click
- Developer advertisements
  - Advertisers pay per Click



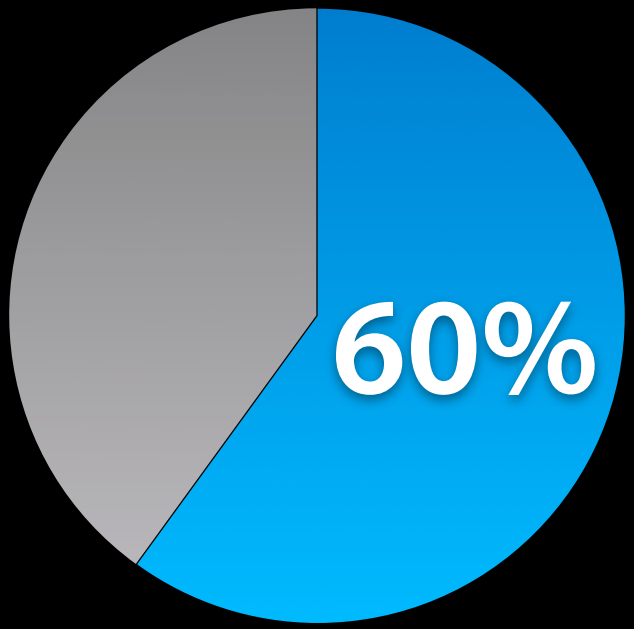
iAd Network

Revenue

- Brand advertisements
  - Advertisers pay per Impression and Click
- Developer advertisements
  - Advertisers pay per Click

$$\text{eCPM} = \frac{\text{Total Revenue}}{\text{Impressions} / 1000}$$

Your share of the revenue



The iAd Network

Common questions

- What affects requests?
  - Active customers
  - Banner placement
  - Time spent

The iAd Network

Common questions

- What affects Impressions?
- What affects my Fill Rate?
  - Banner placement
  - Available advertisements
  - Customer location

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The iAd Network

Common questions

- Why does my Fill Rate vary?
  - Seasonality

Driving Ad Revenue

Qualities of a successful App

- Stable
- Engaging
- Loyal, active customers

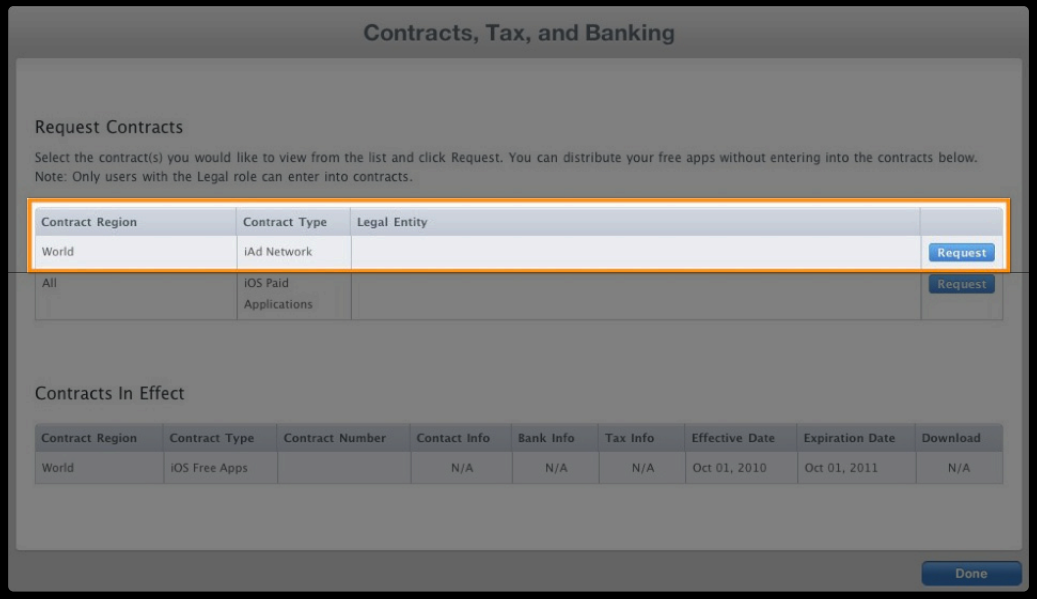
Improving the Stability of Your Apps

Presidio
Thursday 11:30AM

Configuring the iAd Network

Configuring the iAd Network

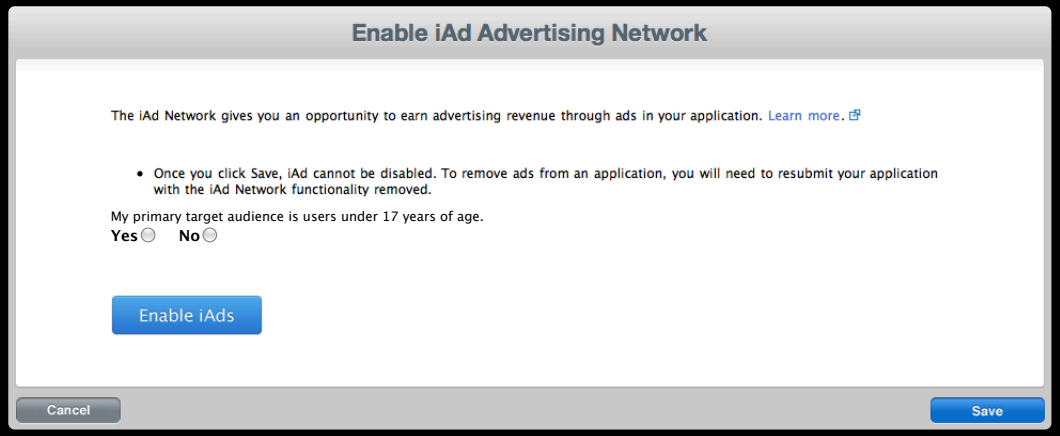
iAd Contract



Configuring the iAd Network

Primary audience

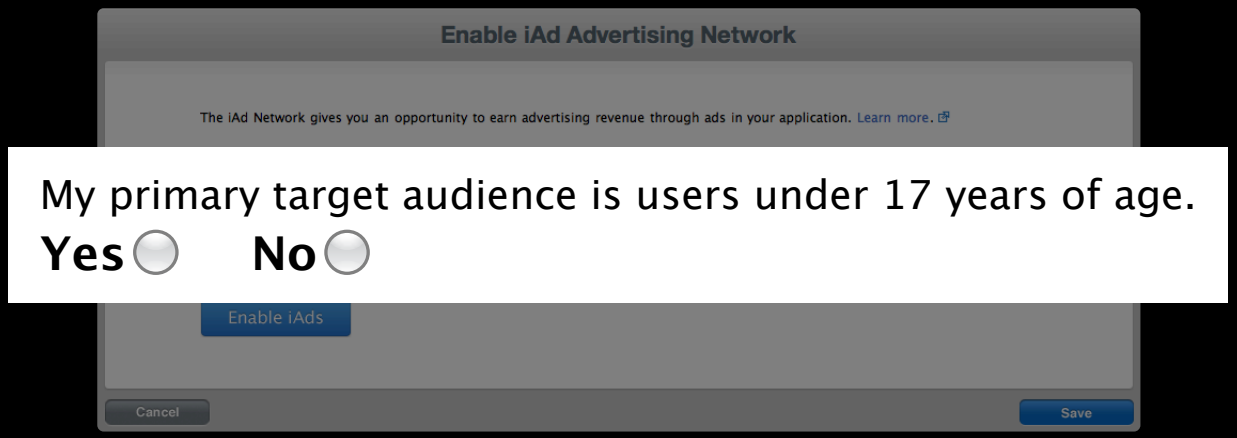
- Helps better target ads



Configuring the iAd Network

Primary audience

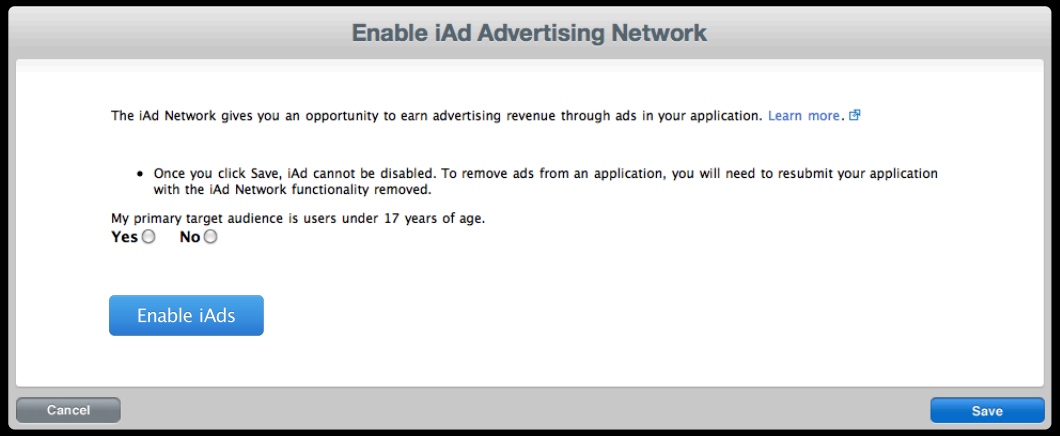
- Helps better target ads
  - Cannot be changed if set to Yes



Configuring the iAd Network

Enable iAds

- Allows customers to get ads
  - If not done, the iAd Framework returns an error
- Must be done before submission



Configuring the iAd Network

Enable iAds

- Allows customers to get ads
  - If not done, the iAd Framework returns an error
- Must be done before submission

Configuring the iAd Network

Test Ads vs Live Ads

- "Development Mode" yields Test Ads
  - Fill Rate intentionally varies
- App Store Download yields Live Ads

Implementing iAd

iAd Framework

- ADBannerView
- ADInterstitialAd

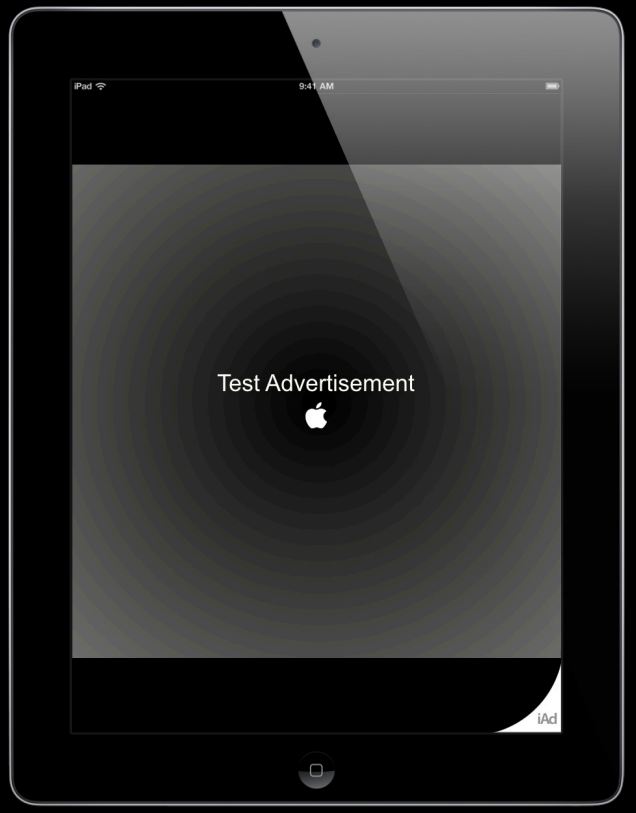
ADBannerView

- Traditional (small) banner
- Introduced in iOS 4.0 (iPad on 4.2)
- Automatically cycles in new ads
- Communicates via ADBannerViewDelegate protocol

ADInterstitialAd

Only on iPad

- "Full-screen" banners
- Introduced on iOS 4.3
- Persistent content
- Communicates via the ADInterstitialAdDelegate protocol



iAd Framework

- ADBannerView
- ADInterstitialAd

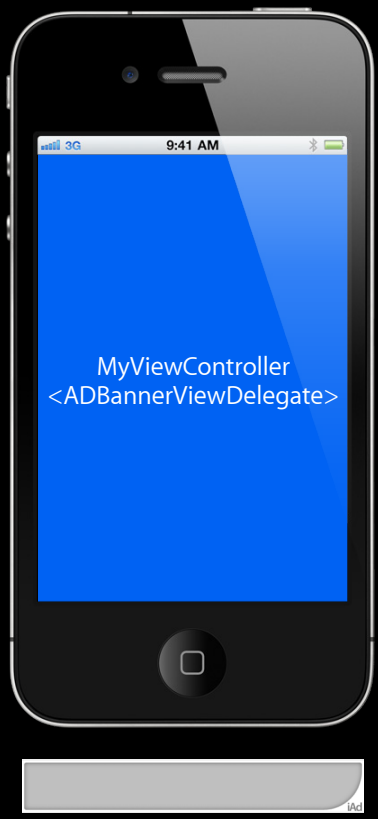
ADBannerView

Banner placement

ADBannerView

Creating a banner

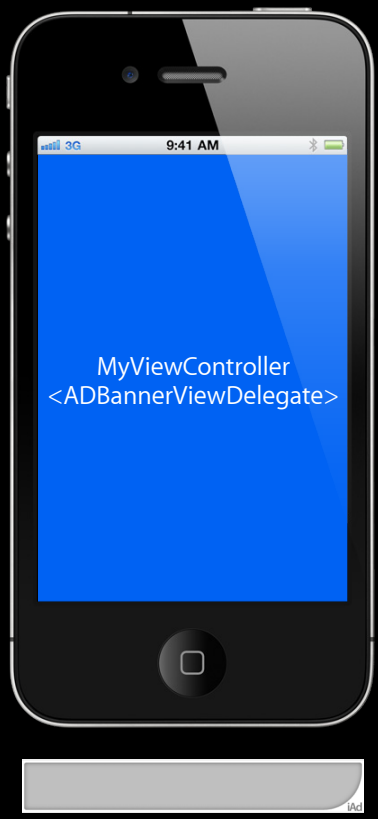
```
banner = [[ADBannerView alloc] init]
banner.delegate = self
```



ADBannerView

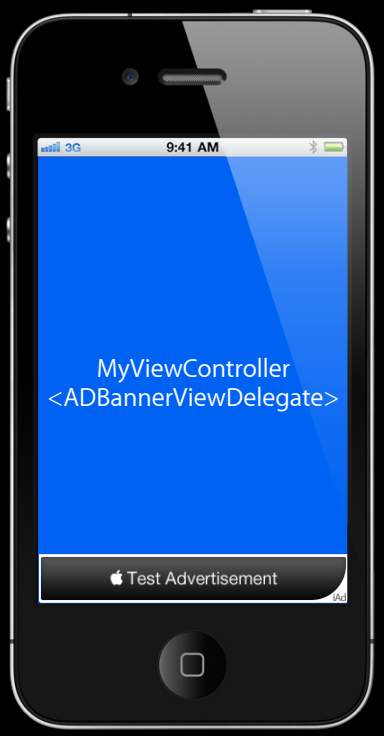
Handling content events

```
-bannerViewWillLoadAd:
-bannerViewDidLoadAd:
-bannerView: didFailToReceiveAdWithError:
```



ADBannerView

```
willAnimateRotationToInterfaceOrientation: duration: {
    if (UIInterfaceOrientationIsPortrait(orientation) {
      banner.currentContentSizeIdentifier =
      ADBannerContentSizeIdentifierPortrait
    } else {
      banner.currentContentSizeIdentifier =
      ADBannerContentSizeIdentifierLandscape
    }
}
```



ADBannerView

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    }
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```

ADBannerView

User interaction

```
-bannerViewActionShouldBegin:
willLeaveApplication:
```

ADBannerView

User interaction

```
-bannerViewActionShouldBegin:
willLeaveApplication:
```

ADBannerView

User interaction

```
-bannerViewActionShouldBegin:
willLeaveApplication:
-bannerViewActionDidFinish:
```

Handling Errors

`-bannerView:didFailToReceiveAdWithError:`

- Minimal requirement: hide the banner view
- Debugging may want to look at the specific error

Detecting Errors

ADError

`ADErrorInventoryUnavailable`

`ADErrorConfigurationError`

`ADErrorBannerVisibleWithoutContent`

`ADErrorLoadingThrottled`

`ADErrorServerFailure`

`ADErrorApplicationInactive`

Detecting Errors

ADError

```
InventoryUnavailable
ConfigurationError
BannerVisibleWithoutContent
LoadingThrottled
```

Detecting Errors

ADError

`InventoryUnavailable`

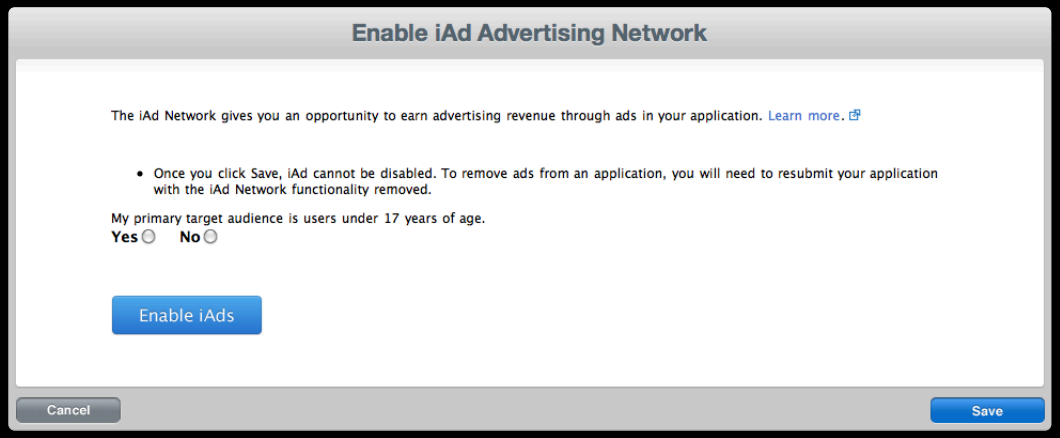
- The iAd Network does not have an advertisement available for your application at this time

Detecting Errors

ADError

`ConfigurationError`

- Your application has not enabled the iAd Network in iTunes Connect



Detecting Errors

ADError

`BannerVisibleWithoutContent`

- An ADBannerView has been displayed without an ad

Detecting Errors

ADError

`LoadingThrottled`

- Too many banners
- Use a shared banner and never get this error

Sharing an ADBannerView

iAd Framework

- ADBannerView
- ADInterstitialAd

ADInterstitialAd

Creating an interstitial

Only on iPad

```
interstitial = [[ADInterstitialAd
alloc] init]
interstitial.delegate = self
```

ADInterstitialAd

Presenting interstitials

Only on iPad

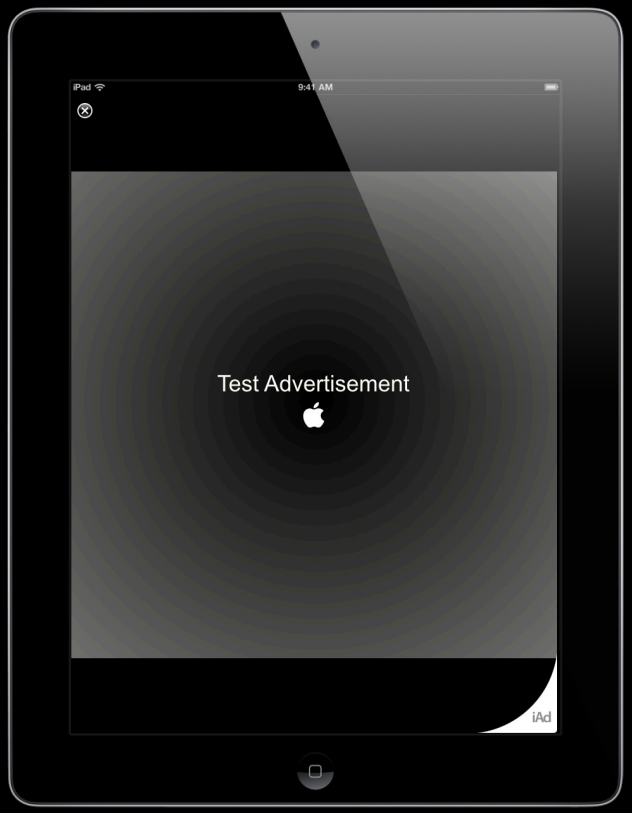
Inline

ADInterstitialAd

Presenting interstitials

Only on iPad

Inline

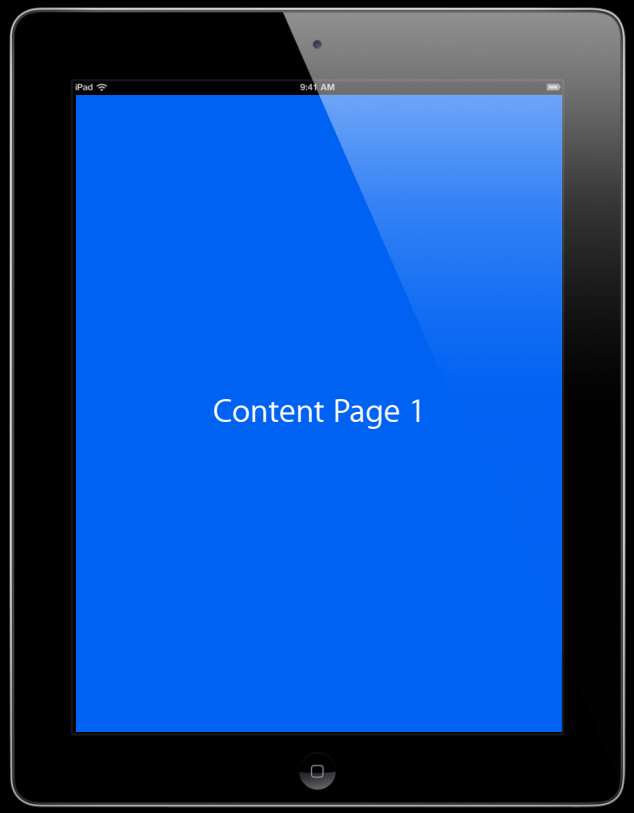


Modal

ADInterstitialAd

Inline presentation

Only on iPad

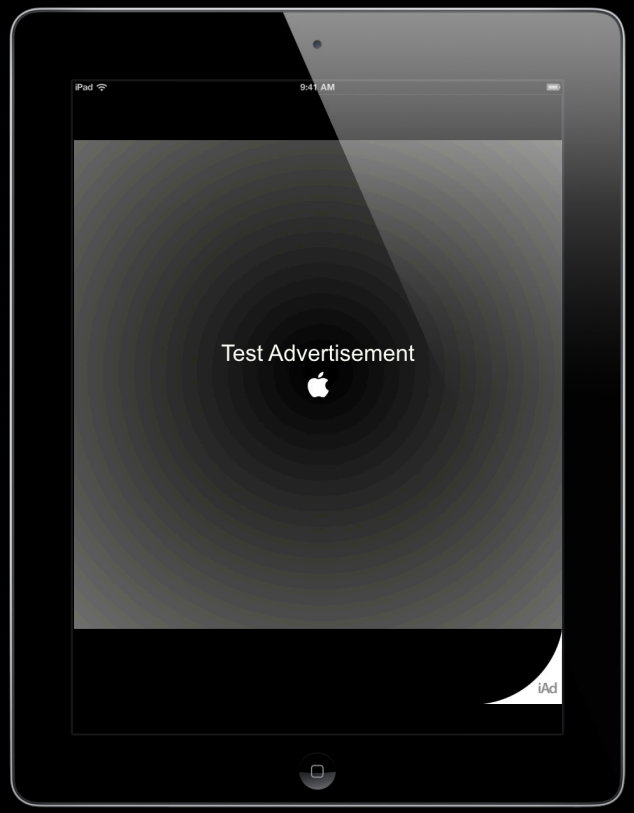



```
-interstitialAdDidLoad: {
UIView *view = // a view for the ad
[interstitial presentInView:view]
}
```

ADInterstitialAd

Inline presentation

Only on iPad

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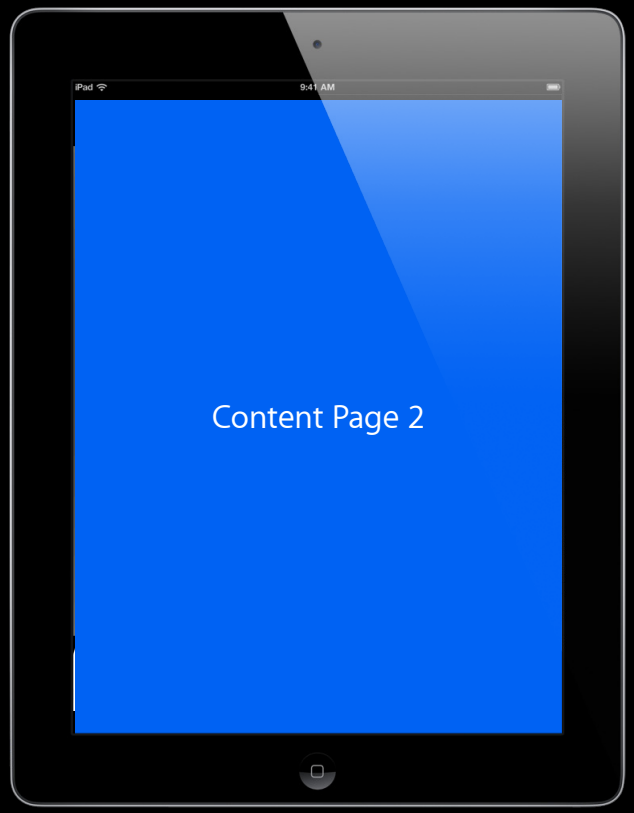
ADInterstitialAd

Inline presentation

Only on iPad

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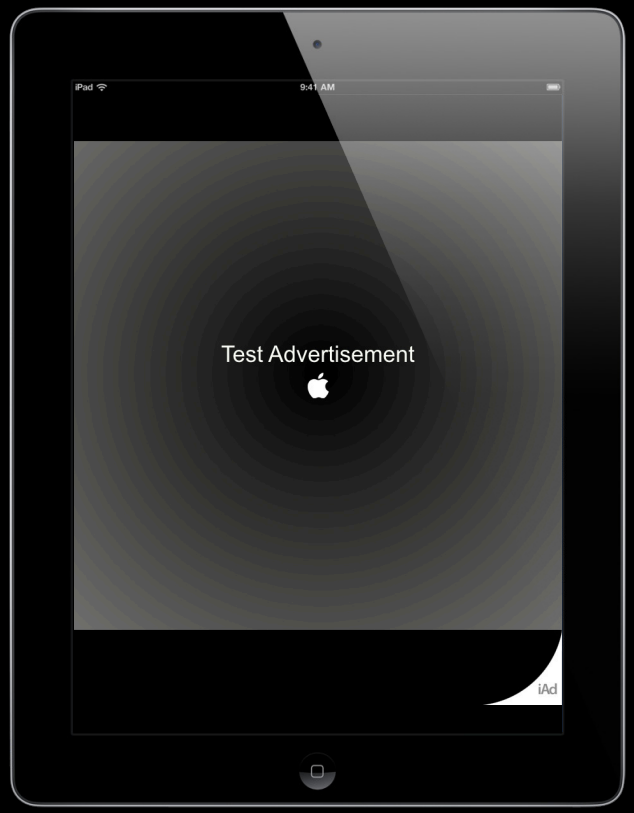
ADInterstitialAd

Inline presentation

Only on iPad




```
-interstitialAdDidLoad: {
UIView *view = // a view for the ad
[interstitial presentInView:view]
}
```

ADInterstitialAd

Modal presentation

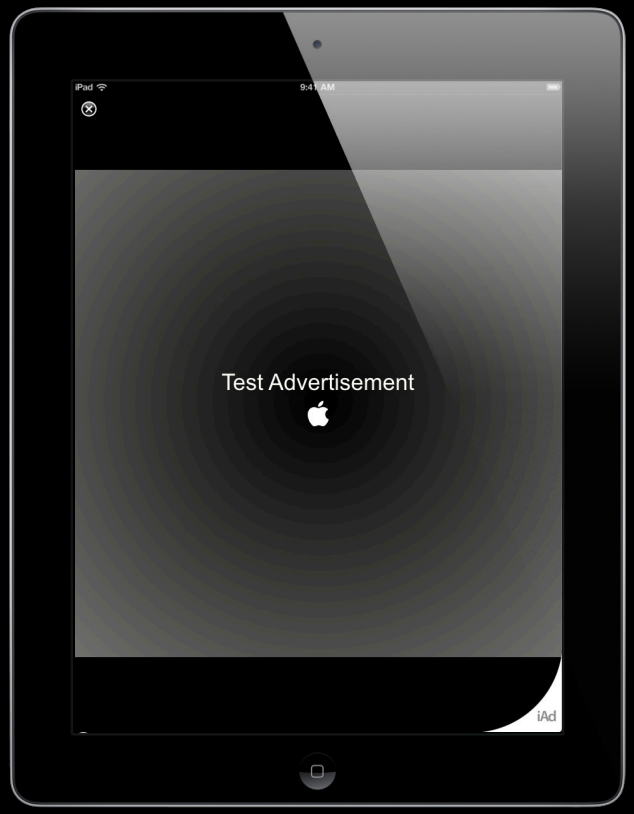
Only on iPad

```
if (interstitial.loaded) {
  [interstitial
presentFromViewController: self]
}
```

ADInterstitialAd

User Interaction

Only on iPad




```
-interstitialAdActionShouldBegin:
willLeaveApplication:

-interstitialAdActionDidFinish:
```

ADMagazine

iAd Best Practices

iAd Best Practices

Memory warnings

- Implement memory warning methods
  - `-[UIViewController viewDidUnload]`
  - `-didReceiveMemoryWarning`
- Do not release iAd objects

iAd Best Practices

View controllers

- iOS 4: Do not nest view controllers

```
[self.view addSubview:otherViewController.view]
```

  - UIKit expects a view controller to represent the entire screen
- iOS 5: Follow UIKit's Rules

Implementing UIViewController Containment	Marina Tuesday 10:15AM

Summary

- Advertisers are creating awesome experiences in iAd
- Customers want a great experience
  - In your App, and with ads
- You can create that experience
  - The reward is ad revenue

More Information

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Safari Technologies Evangelist
vicki@apple.com

Documentation
Mac OS X Human Interface Guidelines
http://developer.apple.com/ue

Apple Developer Forums: Integration, iAd
http://devforums.apple.com/community/ios/integration/iad

Related Sessions

Improving the Stability of Your Apps	Presidio Thursday 11:30AM
Implementing UIViewController Containment	Marina Tuesday 10:15AM
Building iAd Rich Media Ads with iAd Producer	Nob Hill Wednesday 11:30AM

Labs

iAd Integration Lab	Internet and Web Lab B Wednesday 2:00PM

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