Core OS

#WWDC14

Building Apps for Enterprise and Education

Session 704

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Enterprise and Education Apps

Solves a problem

Well-designed

A pleasure to use

Enterprise and Education Apps

Solves a problem

Well-designed

A pleasure to use

Some unique requirements

- Mobile Device Management
- Supervised
- Use cases

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Watch for tips and tricks

Mobile Device Management

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Mobile Device Management

Remote management

Install network access

Install accounts

Install books (New)

Single Sign-on—now with certificates (New)

Install and configure apps

Mobile Device Management

Remote management

Install network access

Install accounts

Install books (New)

Single Sign-on—now with certificates (New)

Install and configure apps

Allow MDM to configure your apps

Managed Apps and Accounts

Managed Apps and Accounts

MDM-installed = “Managed”

- Apps
- Accounts
- Third-party keyboards (New)
- Document Providers (New)

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Per-App VPN

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Restricts data flow

Per-App VPN

Rely on iOS to manage data flow between apps and accounts

Supervised Devices

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Indicates enterprise ownership (vs BYOD)

Can only be set at activation

- Device Enrollment Program
- Apple Configurator

Supervised Devices

Supervised Devices

Additional restrictions and controls

- Always-On VPN (New)
- Global HTTP proxy
- Third-party content filter (New)
- Single App Mode (MDM-driven and autonomous)
- Prevent Erase All Contents and Settings (New)
- Prevent enabling restrictions (New)
- Many more

Supervised Devices

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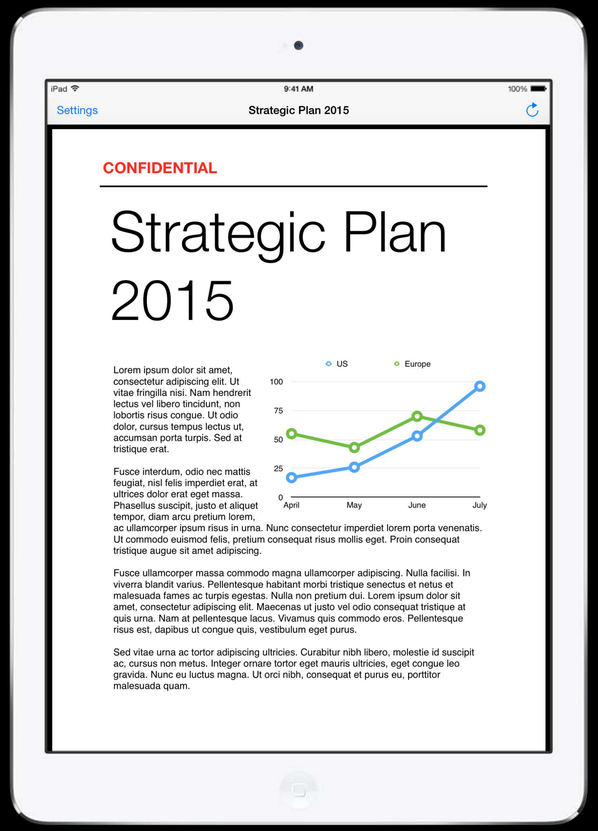
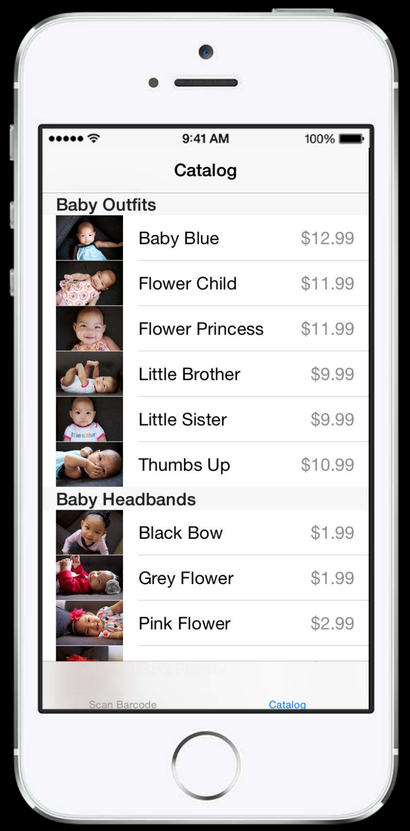
Supervise your enterprise-owned devices

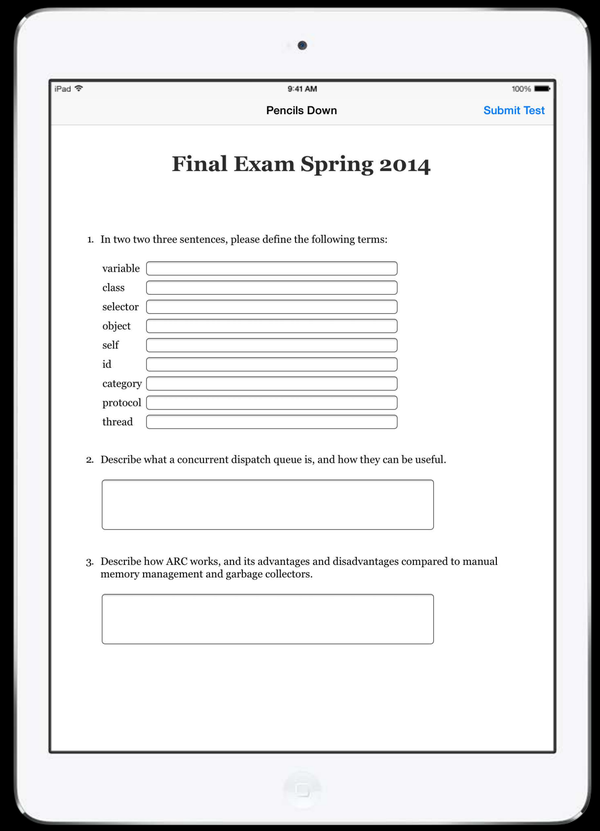
Three Example Apps



Document Access



Point of Sale



Assessment

App 1—Secure Document Access

CONFIDENTIAL

Strategic Plan 2015

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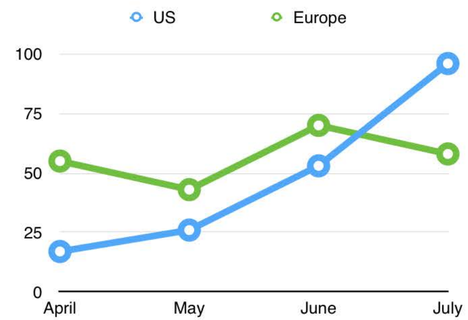

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MDM App Configuration

Special NSUserDefaults key: `@“com.apple.configuration.managed”`

Respond to configuration changes

Define your keys

- URL for document
- Server root certificate

Using Single Sign-on

Use HTTP or HTTPS

Don’t do any user authentication—rely on MDM

Your app may provide alternate authentication

Downloading to Secure File

All files already get `NSFileProtectionCompleteUntilFirstUserAuthentication`

Download to `NSFileProtectionComplete`

Use `NSURLSession` data task

Don’t back up

HTTPS Certificate Pinning

Require HTTPS

Specify trusted root certificates during HTTPS authentication

Prevents man-in-the-middle attacks

Use certificate pinning instead of SSID detection

What We Learned

MDM app configuration

Single Sign-on (do nothing)

Downloading files securely

HTTPS certificate pinning

App 2—Point of Sale

9:41 AM 100%

Catalog

Baby Outfits


Baby Blue $12.99


Flower Child $11.99


Flower Princess $11.99


Little Brother $9.99

Little Sister $9.99


Thumbs Up $10.99

Baby Headbands


Black Bow $1.99


Grey Flower $1.99


Pink Flower $2.99


Red Flower

Scan Barcode Catalog

Single App Mode

MDM-controlled

iBeacon

Provide context

Verify device location

Use in conjunction with Core Location

Use iBeacon to verify location-sensitive operation

Network Reachability

Detect if a server is reachable

Use the `SCNetworkReachability` API

Use Network Reachability to provide intelligent offline behavior

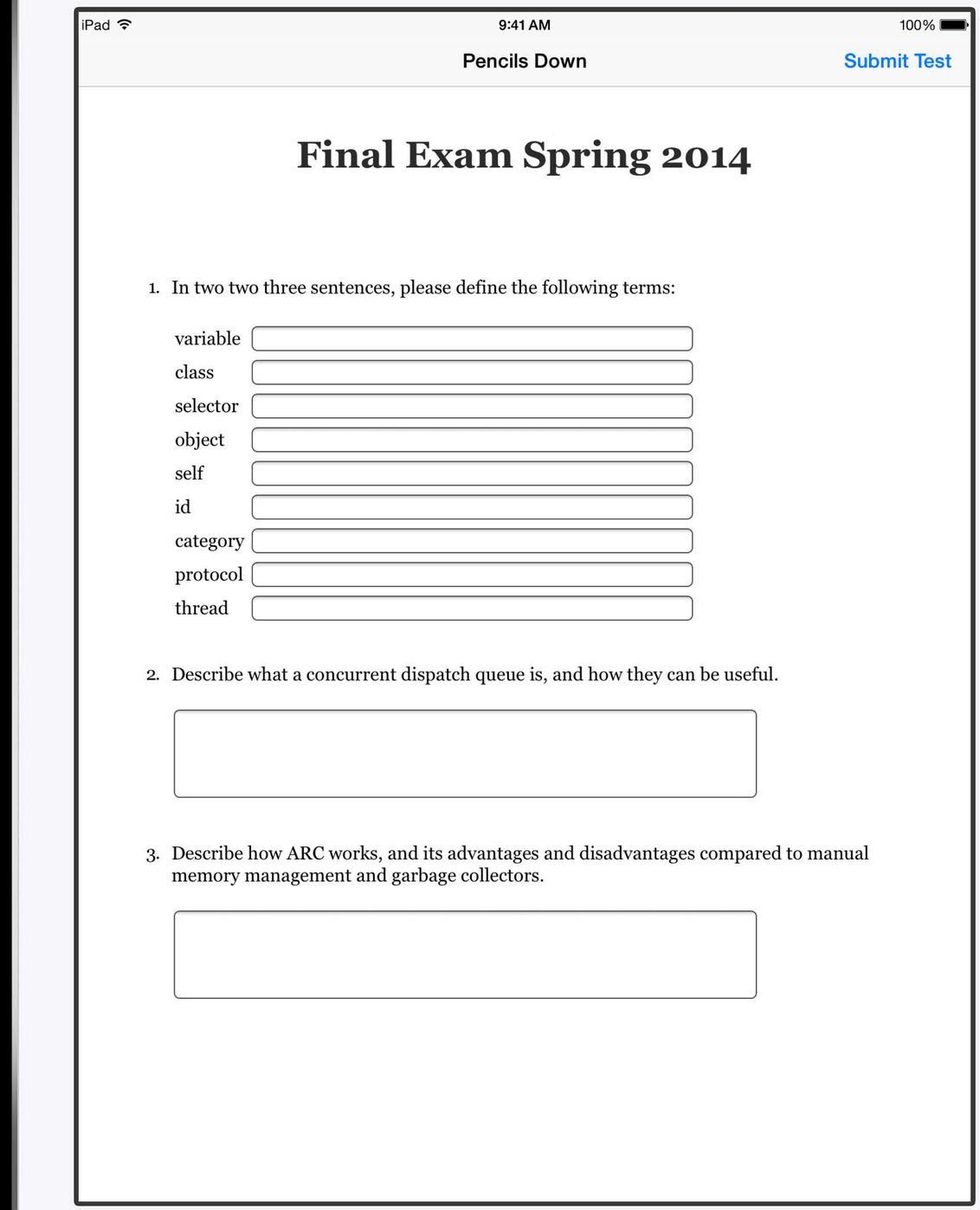
Summary

MDM-managed Single App Mode

iBeacon

Network reachability

App 3—Assessment


iPad
9:41 AM
100%
Pencils Down
Submit Test
Final Exam Spring 2014
1. In two two three sentences, please define the following terms:
variable
class
selector
object
self
id
category
protocol
thread
2. Describe what a concurrent dispatch queue is, and how they can be useful.
3. Describe how ARC works, and its advantages and disadvantages compared to manual memory management and garbage collectors.

Document Providers

Allows document exchange between apps

Install an app = add network access

Use `UIDocumentPickerViewController` to access Document Providers

Use Document Providers to get access to enterprise network resources

Autonomous Single App Mode

Put your own app into Single App Mode

Supervised only

Use Autonomous Single App Mode to lock the user to your app

Use Autonomous Single App Mode sparingly

Summary

Document Providers

Autonomous Single App Mode

Summary

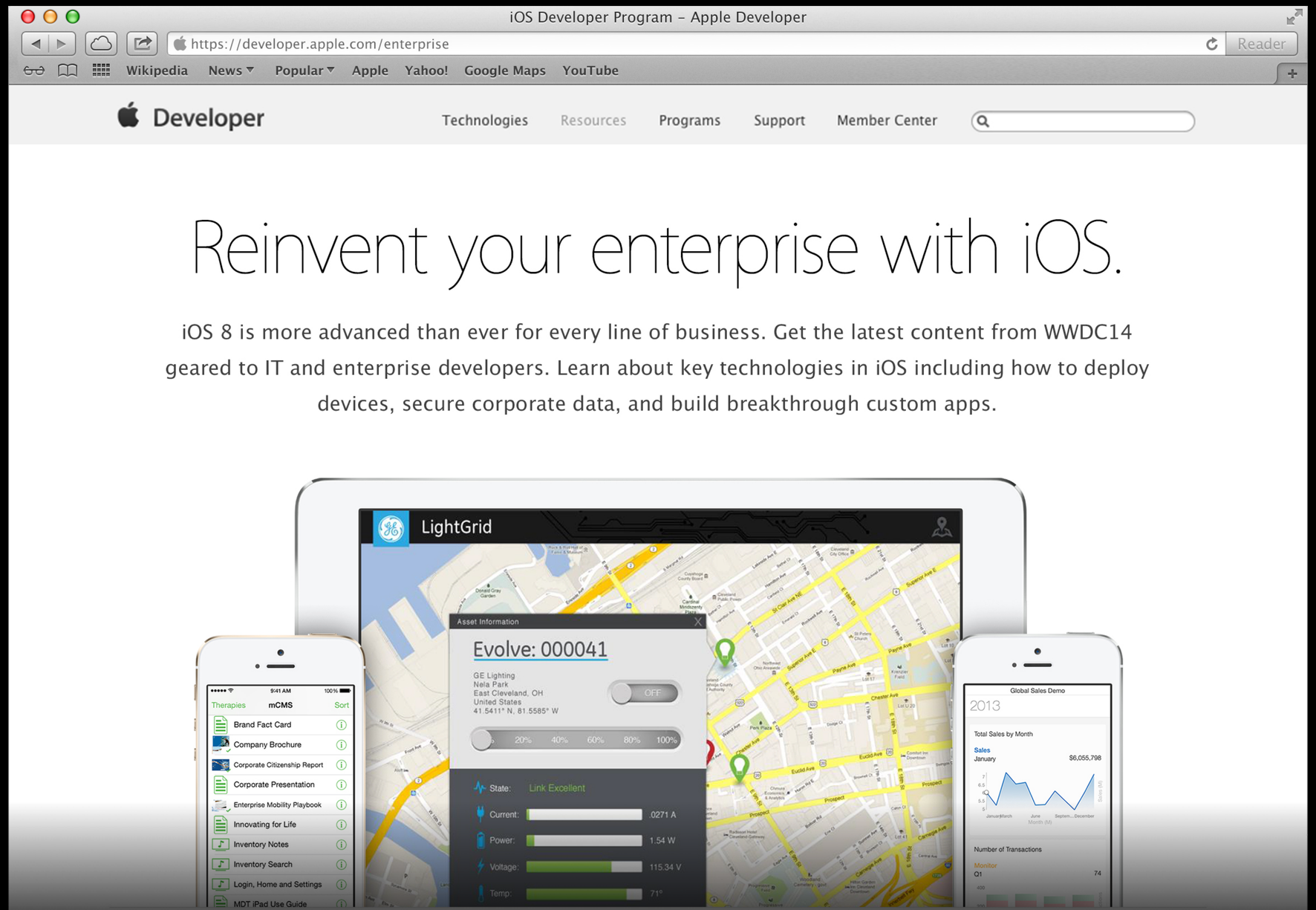
Assume MDM will be used to manage your apps and devices

Assume enterprise-owned devices will be supervised

Rely on iOS for system-wide services

- Single Sign-on
- VPN and global proxy
- Managed data flow
- Single App Mode
- Document Providers
- iBeacon, Core Location

developer.apple.com/enterprise



More Information

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Core OS Technologies Evangelist
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Documentation
iOS Developer Program
http://developer.apple.com/enterprise

Apple Developer Forums
http://devforums.apple.com

Related Sessions

• Managing Apple Devices	Pacific Heights	Tuesday 9:00AM
• Distributing Enterprise Apps	Pacific Heights	Tuesday 11:30AM
• Building a Document-based App	Marina	Thursday 11:30AM

Labs

• Developing Apps for Enterprise and Education Lab	Core OS Lab A	Wednesday 2:00PM
• Managing Apple Devices Lab	Core OS Lab B	Thursday 9:00AM

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