

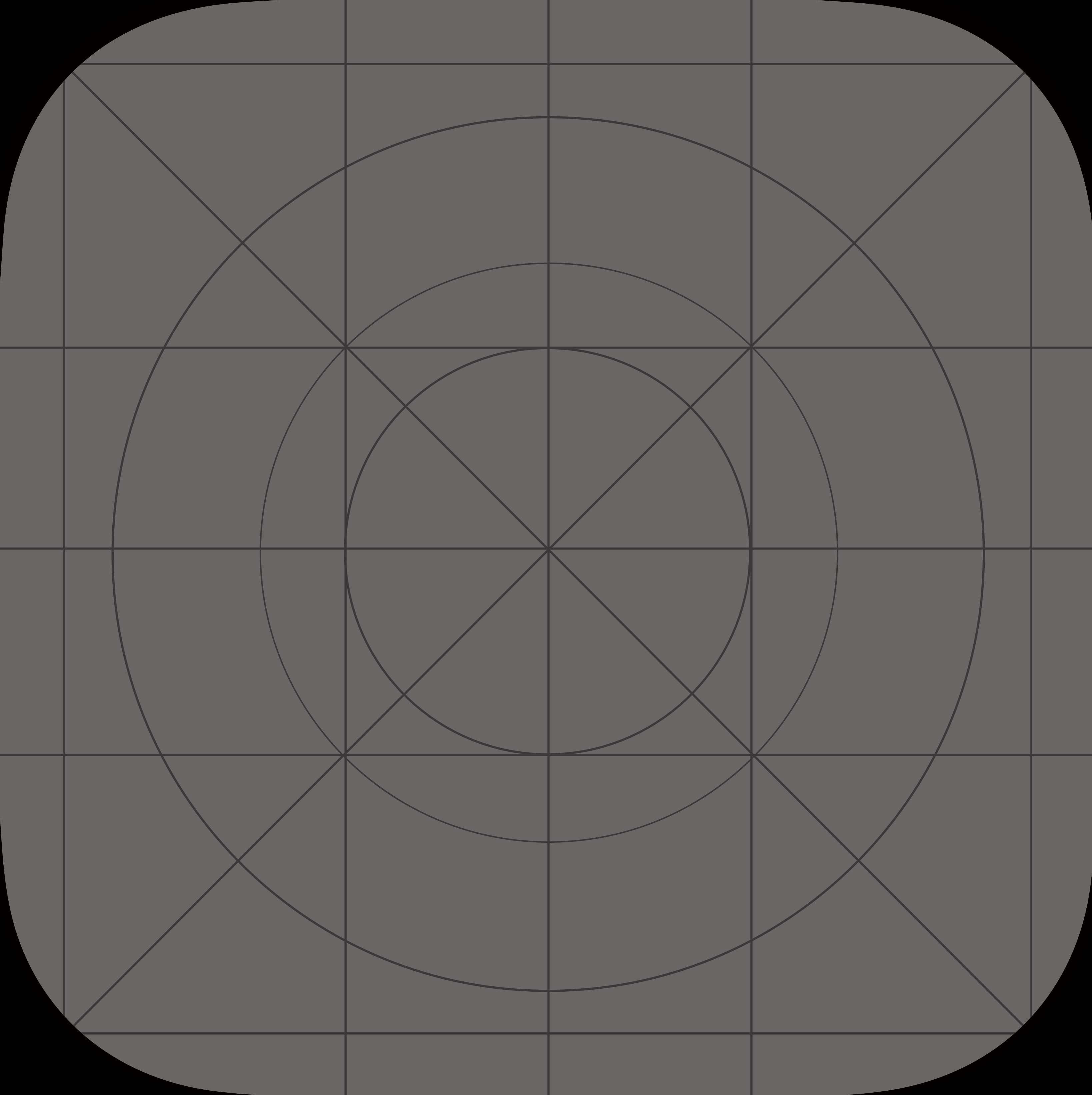
#WWDC19

App Distribution - From Ad Hoc to Enterprise

Ashley Carroll, App Development Consulting Engineer

Idea → Prototypes → App → Users

```
graph LR; A[Idea] --> B[Prototypes]; B --> C[App]; C --> D[Users]
```







9:41



FaceTime



Calendar



Photos



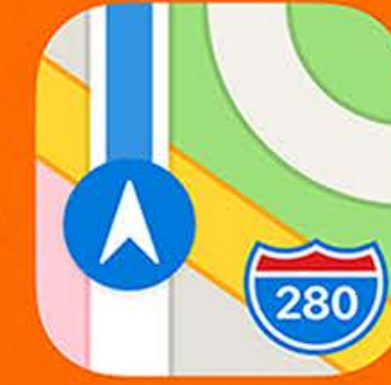
Camera



Mail



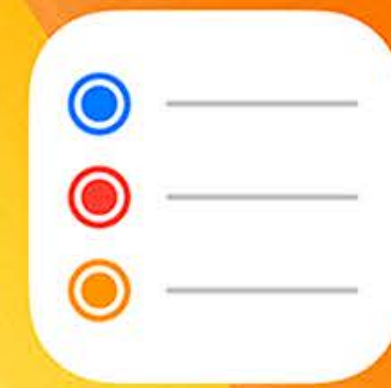
Clock



Maps



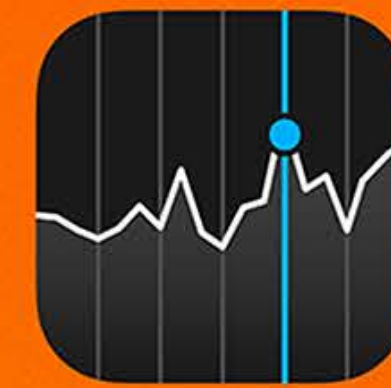
Weather



Reminders



Notes



Stocks



News



Books



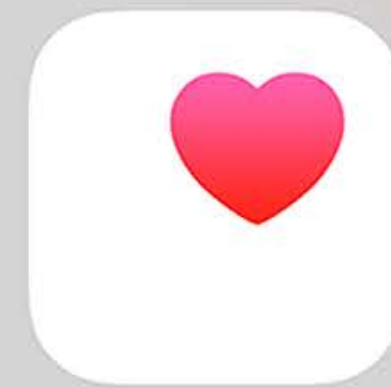
App Store



Podcasts



TV



Health



Home



Wallet



Settings



**Finding the best way to
reach your users**

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Who is the audience for the app?

Who owns the devices it will be distributed on?

Who owns the source code?

Who is purchasing the app?

Who will host the app?

Who is building the app?

Who needs a developer program account?

Who?

Who is your user? Who is your customer?

Customers and Users



Individuals

Customers and Users



Individuals



Ad Hoc



App Store

Customers and Users



Individuals



Ad Hoc

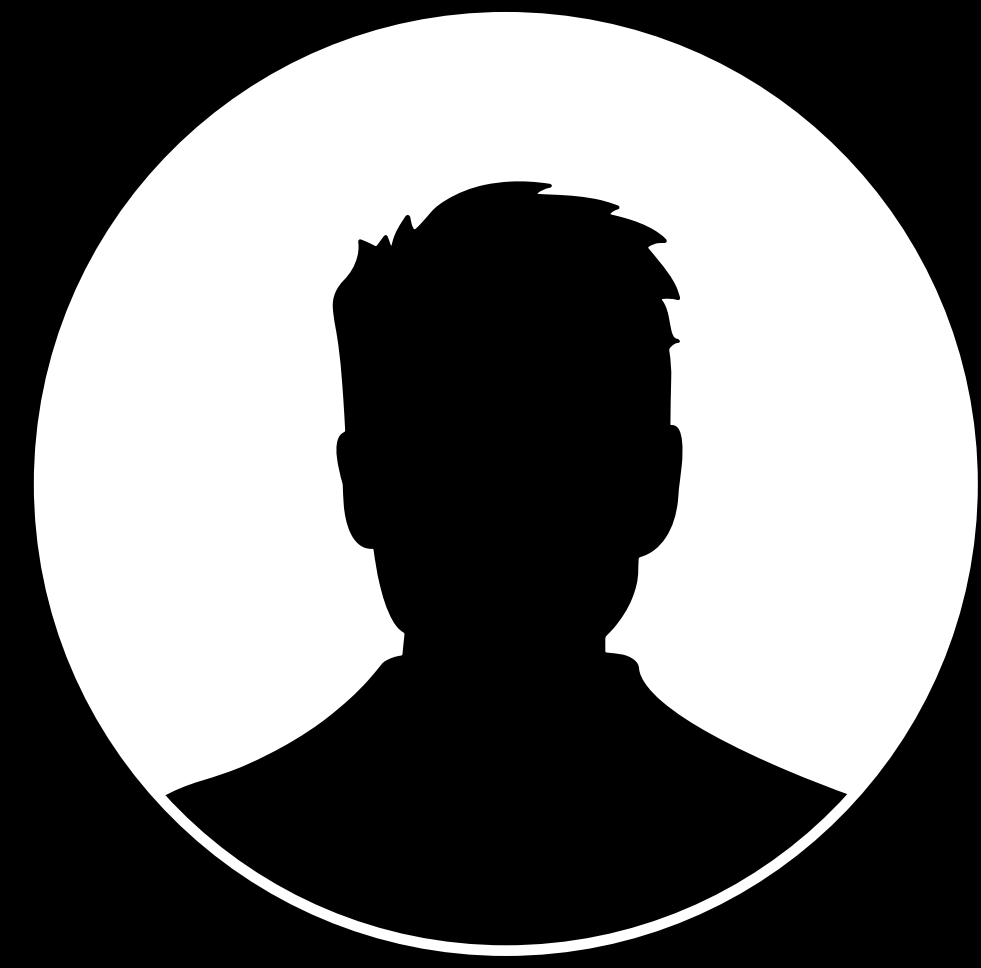
Limited Private



App Store

Public

Customers and Users



Individuals



Organizations



Ad Hoc

Limited Private



App Store

Public

Customers and Users



Individuals



Organizations



Group



Ad Hoc

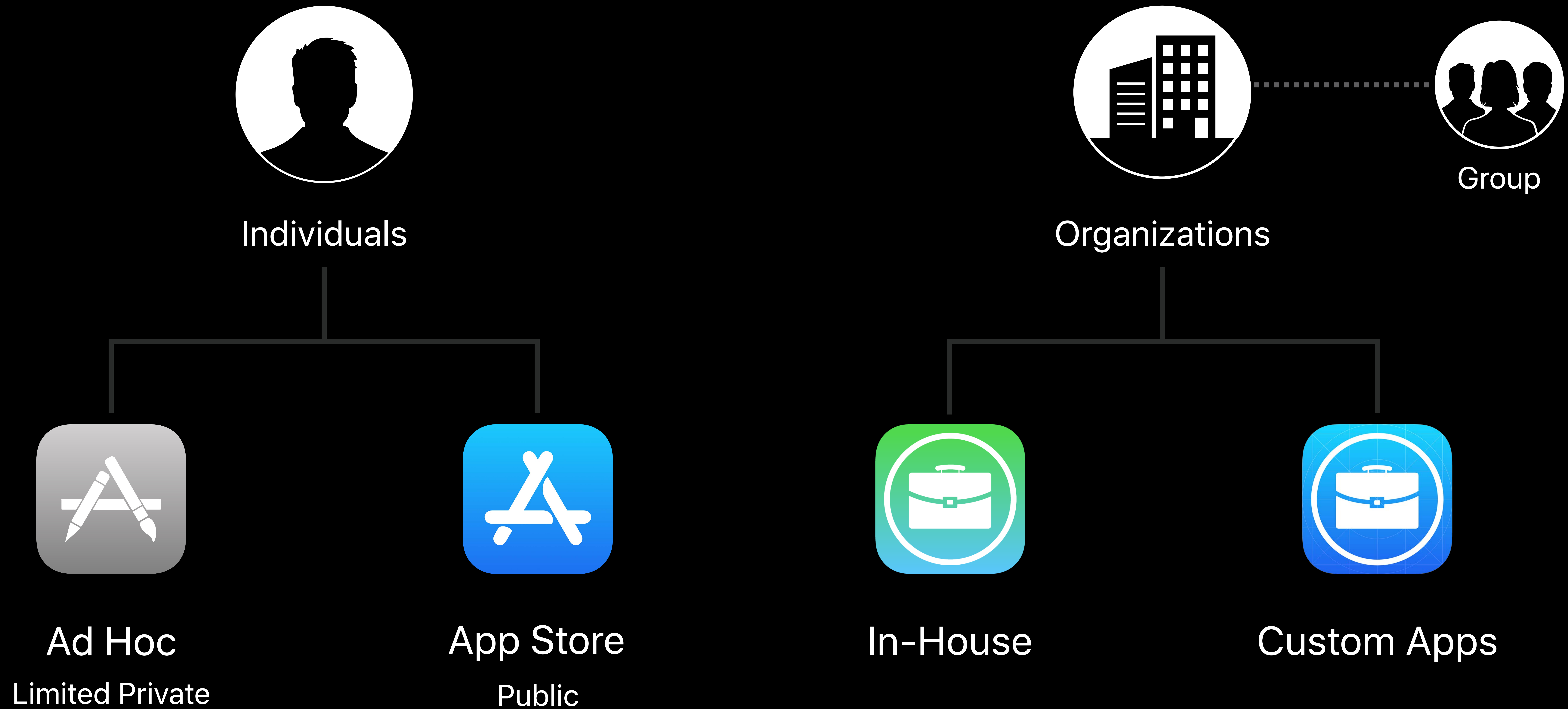
Limited Private



App Store

Public

Customers and Users



Customers and Users



Individuals



Organizations



Group



Ad Hoc

Limited Private



App Store

Public



In-House

Private



Custom Apps

Private

Distribution Journey



Ad Hoc



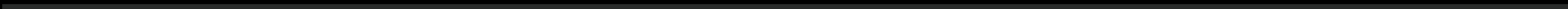
App Store



In-House



Custom Apps



Distribution Journey



Ad Hoc



App Store



In-House



Custom Apps



Discuss the alternatives for app distribution

Understand the expectations and best practices

Know where your app fits

Follow an app on a distribution journey

Discuss the alternatives for app distribution

Understand the expectations and best practices

Know where your app fits

Follow an app on a distribution journey

LunchControl



Ordering Lunch

Trevor

1 Bacon Burger
NO TOMATO !!
—
Vanilla shake

Order Jim
his usual

ROD

TURKEY CLUB
FRIES

Tom

veggie Burger
onion Rings
Iced Tea

Jaclyn

Cheesburger
Vanilla shake

Pick Something
for me!

— Kev

Getting Started



Xcode

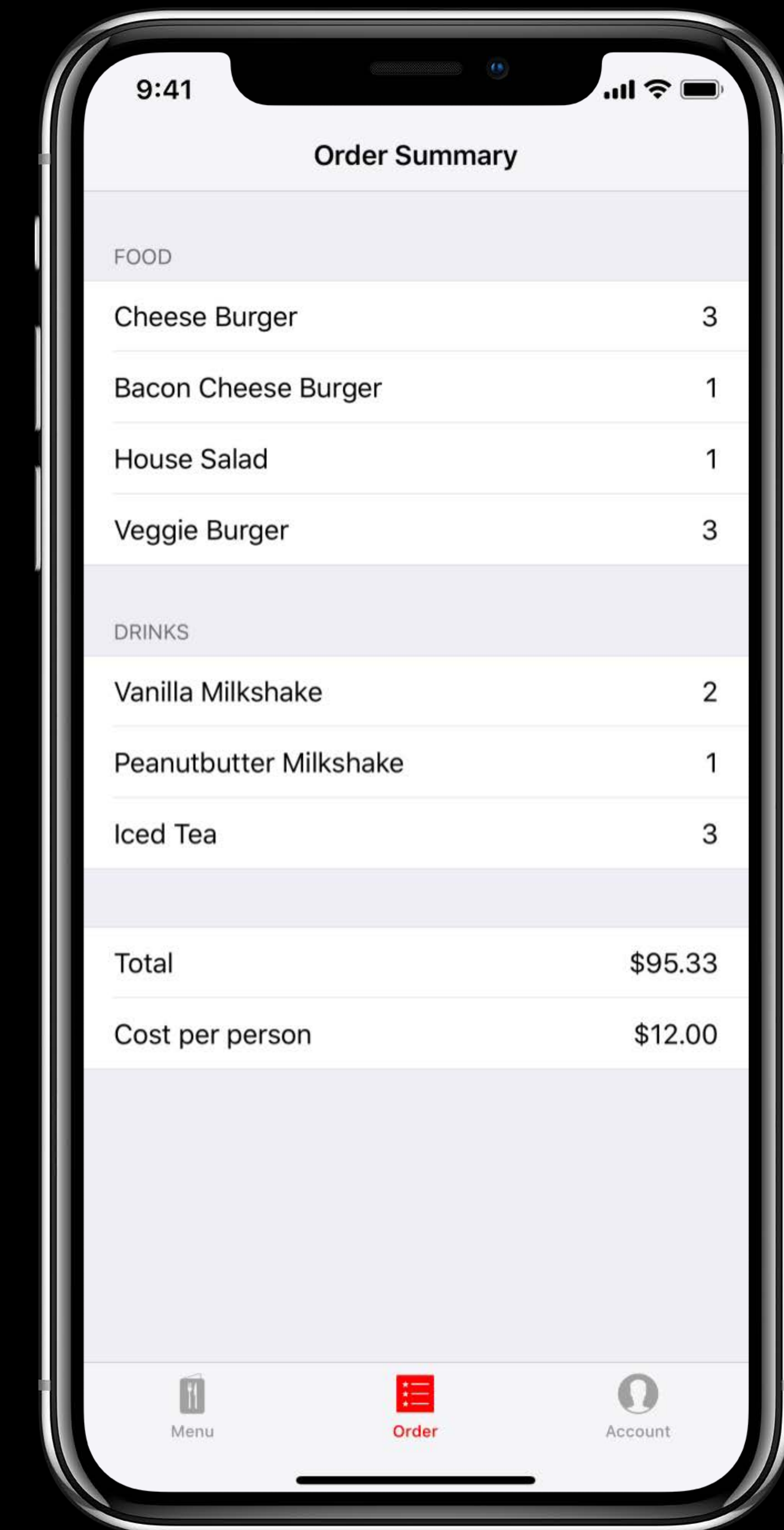
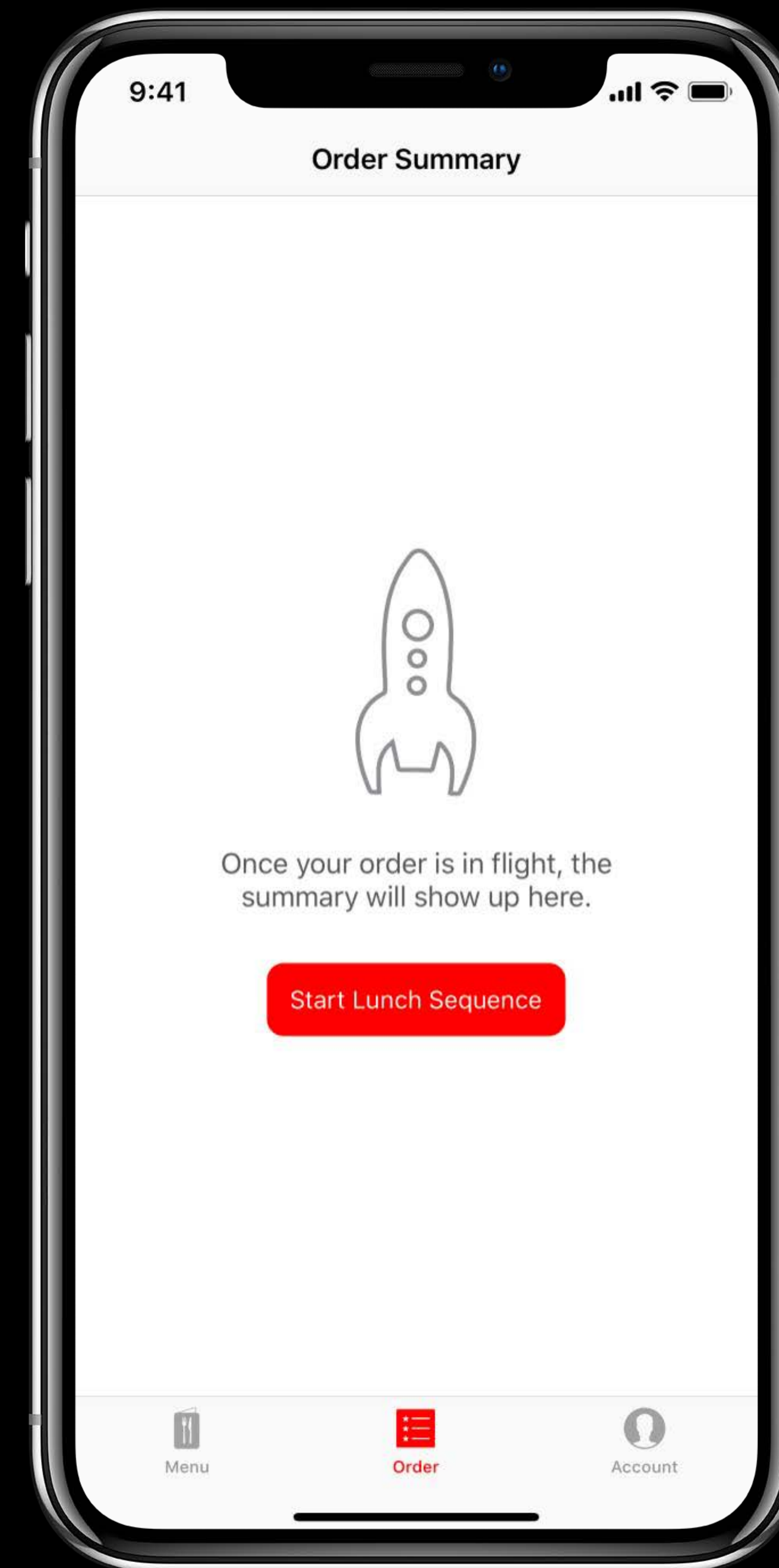
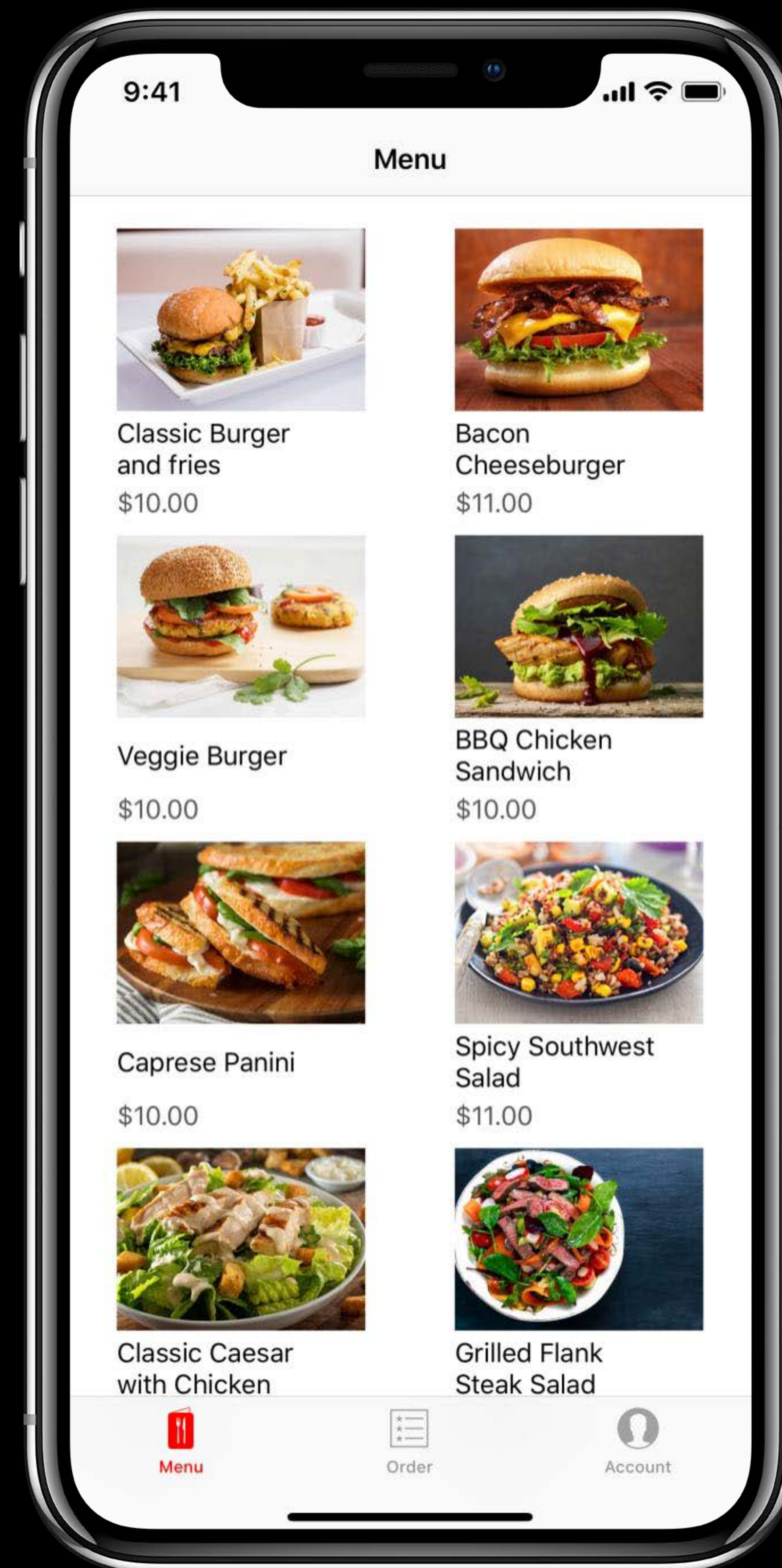


SDK



Personal Team

LunchControl Prototype



Personal Team

Sign into Xcode with an Apple ID

Free to use

Deploy a limited number of apps to a few devices

Apps expire after a few days



Personal Team

Testing on device

The screenshot shows the Xcode IDE interface with the 'Deluxe Flashlight' project selected. The main pane displays the 'General' settings for the selected target. The interface is divided into several sections:

- Identity:** Display Name: Deluxe Flashlight; Bundle Identifier: de.onecanco.Deluxe-Flashlight; Version: 1.0; Build: 1.
- Signing:** Automatically manage signing (Xcode will create and update profiles, app IDs, and certificates); Team: Everyone Cancode (Personal Team); Provisioning Profile: Xcode Managed Profile; Signing Certificate: iPhone Developer: every@onecanco.de (9C2D82...).
- Deployment Info:** Deployment Target: 12.2; Devices: Universal; Main Interface: Main; Device Orientation: Portrait, Upside Down, Landscape Left, Landscape Right; Status Bar Style: Default; Hide status bar; Requires full screen.
- App Icons and Launch Images:** App Icons Source: AppIcon; Launch Images Source: Use Asset Catalog...; Launch Screen File: LaunchScreen.
- Embedded Binaries:** Add embedded binaries here.

The right-hand pane shows the 'Identity and Type' settings: Name: Deluxe Flashlight; Location: Absolute; Full Path: /Users/everyonecancode/Desktop/Deluxe Flashlight/Deluxe Flashlight.xcodeproj; Project Document: Project Format: Xcode 9.3-compatible; Organization: Everyone Can Code; Class Prefix: (empty); Text Settings: Indent Using: Spaces; Widths: Tab (4), Indent (4); Wrap lines.

Personal Team

Testing on device

The screenshot shows the Xcode IDE interface. A modal dialog box is displayed in the center, titled "Could not launch 'Deluxe Flashlight'". The message reads: "Verify the Developer App certificate for your account is trusted on your device. Open Settings on My iPhone Xs Max and navigate to General -> Device Management, then select your Developer App certificate to trust it. Internal launch error: process launch failed: Security". An "OK" button is visible at the bottom of the dialog.

The background shows the Xcode project settings for "Deluxe Flashlight". The "Signing" section is expanded, showing the following configuration:

- Automatically manage signing
Xcode will create and update profiles, app IDs, and certificates.
- Team: Everyone Cancode (Personal Team)
- Provisioning Profile: Xcode Managed Profile ⓘ
- Signing Certificate: iPhone Developer: every@onecanco.de (9C2D82...)

The "Deployment Info" section is also visible, showing:

- Deployment Target: 12.2
- Devices: Universal
- Main Interface: Main
- Device Orientation: Portrait, Upside Down, Landscape Left, Landscape Right
- Status Bar Style: Default
- Hide status bar
- Requires full screen

The "App Icons and Launch Images" section shows:

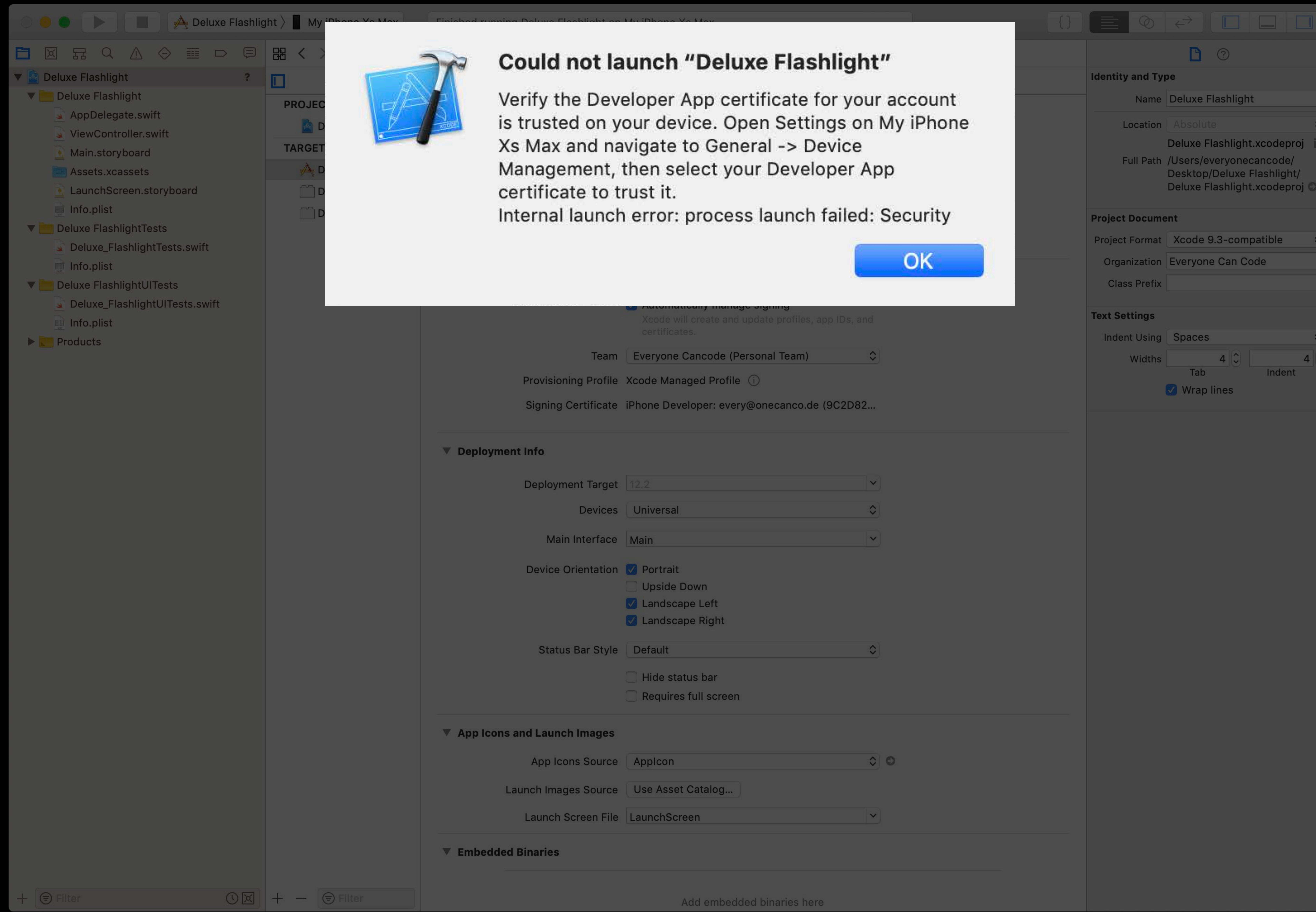
- App Icons Source: AppIcon
- Launch Images Source: Use Asset Catalog...
- Launch Screen File: LaunchScreen

The "Embedded Binaries" section is currently empty, with a placeholder text "Add embedded binaries here".

On the right side of the interface, the "Identity and Type" section shows the project name "Deluxe Flashlight" and the full path: "/Users/everyonecancode/Desktop/Deluxe Flashlight/Deluxe Flashlight.xcodeproj". The "Text Settings" section shows "Indent Using: Spaces" and "Wrap lines" checked.

Personal Team

Testing on device



The screenshot shows the Xcode interface with an error dialog box in the foreground. The dialog box has a hammer icon and the title "Could not launch 'Deluxe Flashlight'". The message reads: "Verify the Developer App certificate for your account is trusted on your device. Open Settings on My iPhone Xs Max and navigate to General -> Device Management, then select your Developer App certificate to trust it. Internal launch error: process launch failed: Security". An "OK" button is at the bottom right of the dialog.

In the background, the Xcode interface is visible. The "Signing" section is expanded, showing the following settings:

- Team: Everyone Cancode (Personal Team)
- Provisioning Profile: Xcode Managed Profile
- Signing Certificate: iPhone Developer: every@onecanco.de (9C2D82...)

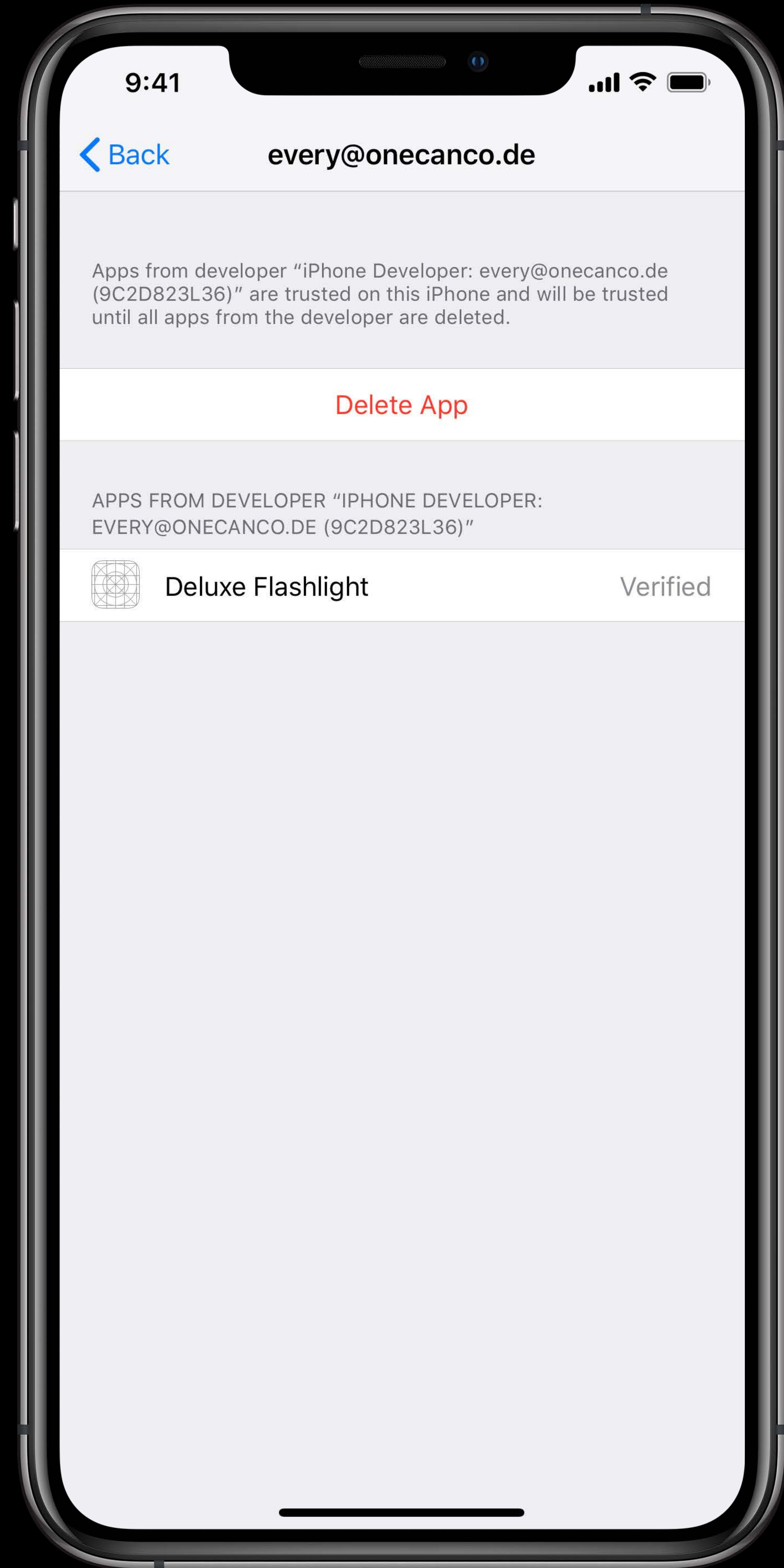
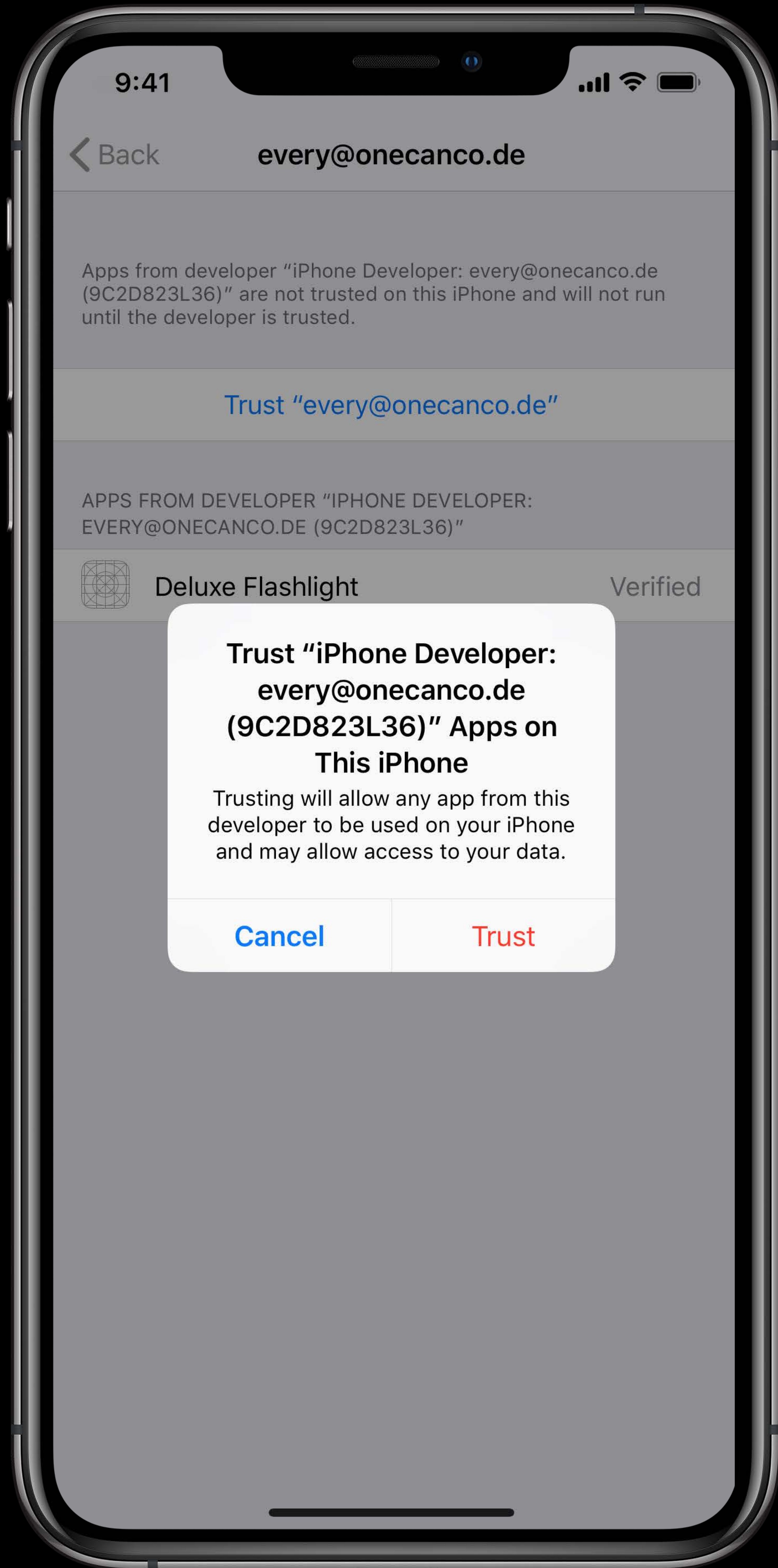
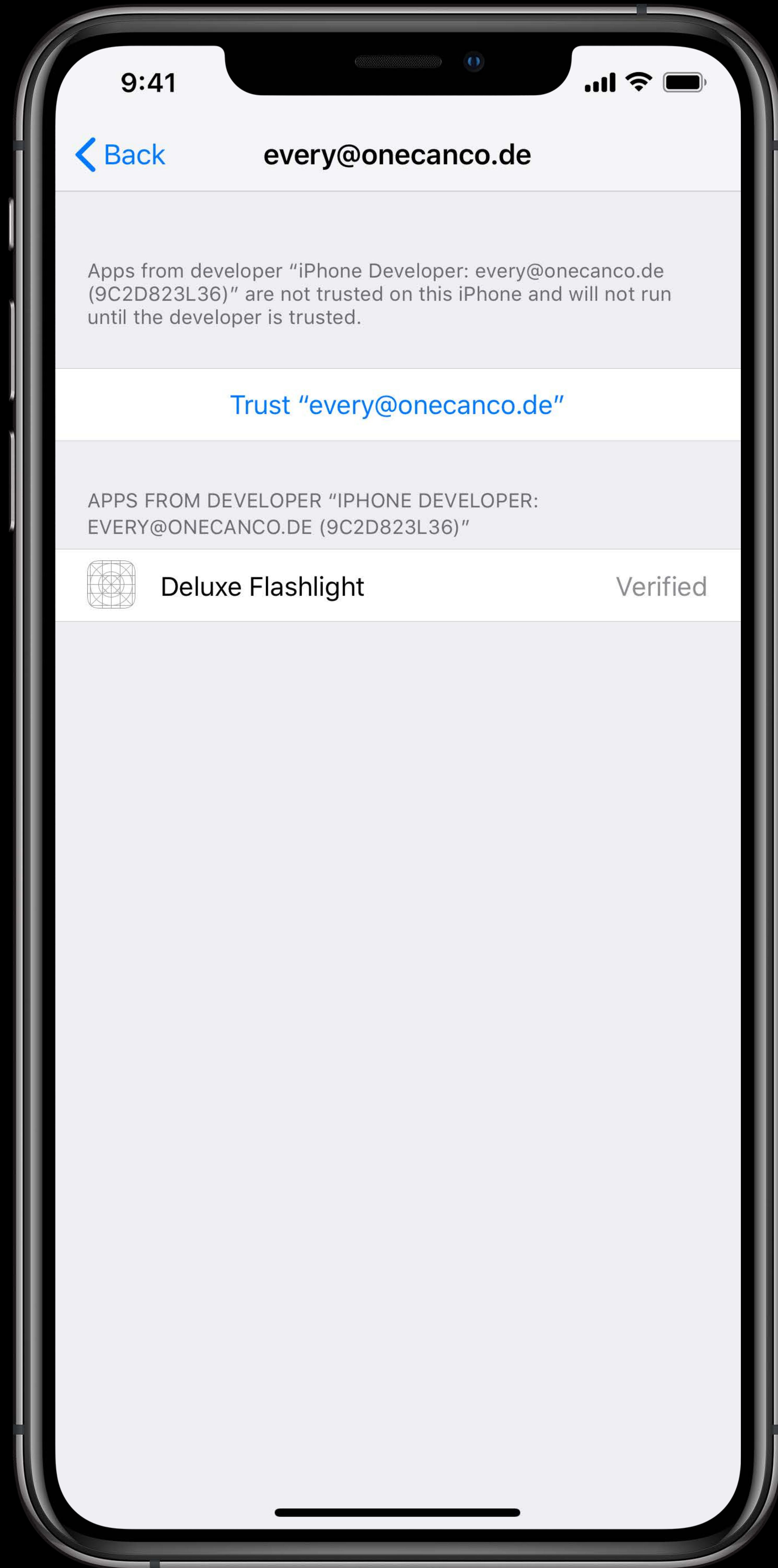
The "Deployment Info" section is also expanded, showing:

- Deployment Target: 12.2
- Devices: Universal
- Main Interface: Main
- Device Orientation: Portrait, Upside Down, Landscape Left, Landscape Right
- Status Bar Style: Default
- Hide status bar
- Requires full screen

The "App Icons and Launch Images" section is expanded, showing:

- App Icons Source: AppIcon
- Launch Images Source: Use Asset Catalog...
- Launch Screen File: LaunchScreen

The "Embedded Binaries" section is also expanded, showing an empty list with the text "Add embedded binaries here" at the bottom.



Personal Team

Expectations

Intended for students, teachers and getting started

Apps will be deployed to devices you own

Intended for a few apps and a few devices

Certain capabilities are not available with free accounts (ex: CloudKit)

Apps cannot be distributed on the App Store

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

LunchControl

Testing



Coworkers should be able to test the app

Individual accounts only allow for personal devices

Leveraging all of the features of the SDK is important



Testers

 Developer Program

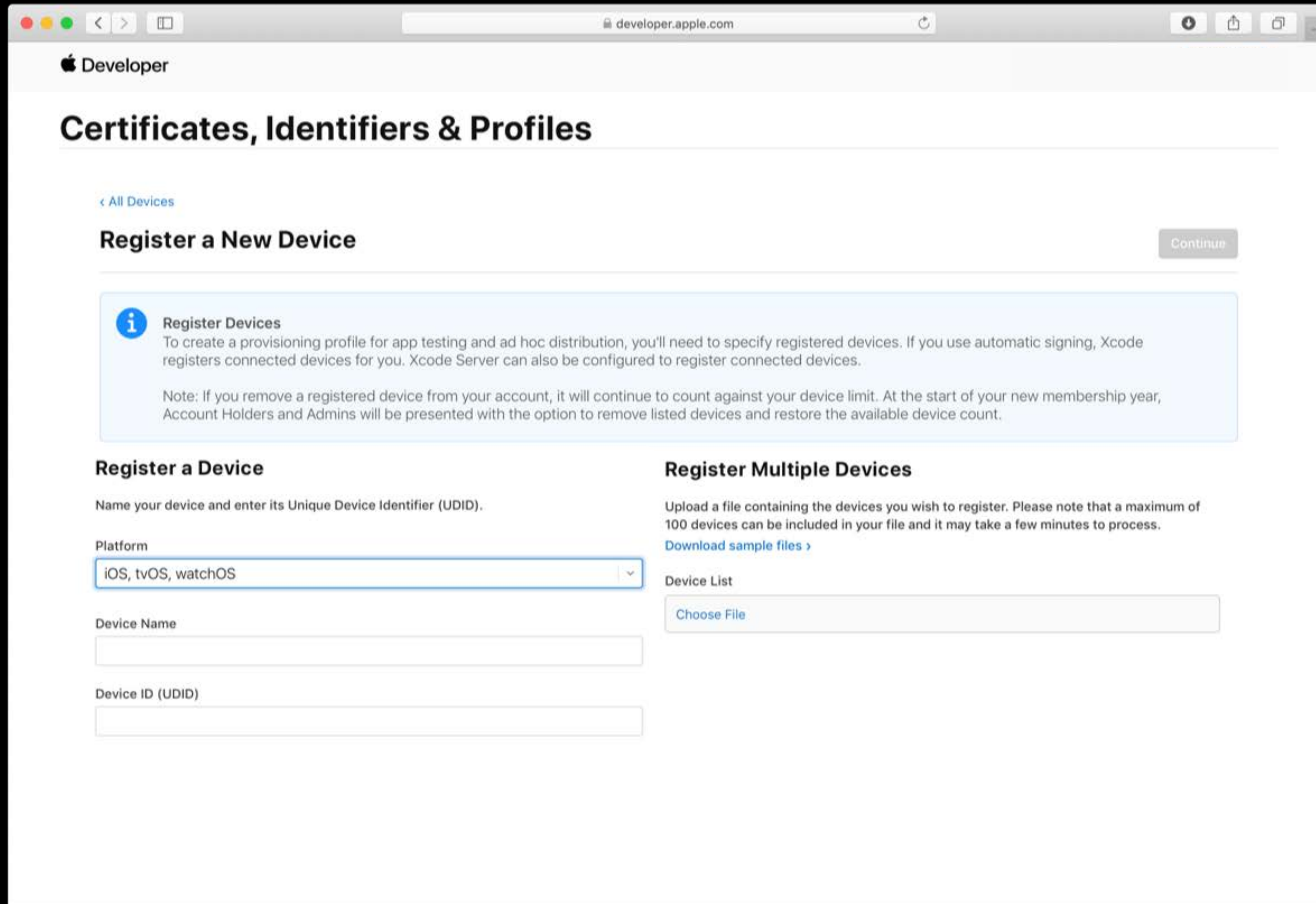
Ad Hoc Distribution

Distribute your app to testers on registered devices

100 devices, per product family, per year can be registered



Registering a Device



The screenshot shows the Apple Developer website interface for registering a device. The browser address bar shows 'developer.apple.com'. The page title is 'Certificates, Identifiers & Profiles'. A breadcrumb link for '< All Devices' is visible. The main heading is 'Register a New Device' with a 'Continue' button to its right. An information box explains the registration process and includes a note about device limits. Below this, there are two columns: 'Register a Device' with a 'Platform' dropdown menu (set to 'iOS, tvOS, watchOS'), 'Device Name' text input, and 'Device ID (UDID)' text input; and 'Register Multiple Devices' with an upload instruction, a 'Download sample files' link, and a 'Device List' section with a 'Choose File' button.

Developer

Certificates, Identifiers & Profiles

[< All Devices](#)

Register a New Device Continue

i Register Devices
To create a provisioning profile for app testing and ad hoc distribution, you'll need to specify registered devices. If you use automatic signing, Xcode registers connected devices for you. Xcode Server can also be configured to register connected devices.

Note: If you remove a registered device from your account, it will continue to count against your device limit. At the start of your new membership year, Account Holders and Admins will be presented with the option to remove listed devices and restore the available device count.

Register a Device

Name your device and enter its Unique Device Identifier (UDID).

Platform
iOS, tvOS, watchOS

Device Name

Device ID (UDID)

Register Multiple Devices

Upload a file containing the devices you wish to register. Please note that a maximum of 100 devices can be included in your file and it may take a few minutes to process.

[Download sample files >](#)

Device List

Registering a Device

The screenshot shows the Apple Developer website interface. The main heading is "Certificates, Identifiers & Profiles". Below it, there's a breadcrumb "All Devices" and a sub-heading "Register a New Device" with a "Continue" button. An information box explains the "Register Devices" process and includes a note about device limits. A modal window titled "Register a Device" is open, containing a "Name your device and enter its Unique Device Identifier (UDID)." instruction, a "Platform" dropdown menu (set to "iOS, tvOS, watchOS"), and input fields for "Device Name" and "Device ID (UDID)".

Developer

Certificates, Identifiers & Profiles

< All Devices

Register a New Device Continue

i Register Devices
To create a provisioning profile for app testing and ad hoc distribution, you'll need to specify registered devices. If you use automatic signing, Xcode registers connected devices for you. Xcode Server can also be configured to register connected devices.

Note: If you remove a registered device from your account, it will continue to count against your device limit. At the start of your new membership year, Account Holders and Admins will be presented with the option to remove listed devices and restore the available device count.

Register a Device

Name your device and enter its Unique Device Identifier (UDID).

Platform
iOS, tvOS, watchOS

Device Name

Device ID (UDID)

Register Multiple Devices

Upload a file containing the devices you wish to register. Please note that a maximum of 100 devices can be included in your file and it may take a few minutes to process.
[Download sample files >](#)

Device List

Installing Ad Hoc Builds

Tether and install with Xcode

Tether and install with Apple Configurator

OTA Installation

Ad Hoc Distribution

Expectations

Meant for testing apps on registered devices

Short term distribution solution

Apps expire and will eventually stop working

Device limits reset once per year

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

LunchControl

Beta testing at scale



User interest is growing

Manually registering UDIDs is time consuming

Close to reaching the device limit for ad hoc distribution



More testers

TestFlight

25 internal testers

10,000 testers via email or a public link

Builds are active for 90 days

Builds for external testers go through beta app review

Available to members of the Apple Developer Program only



appstoreconnect.apple.com

App Store Connect My Apps ▾ LunchControl ▾ Cindy Cheung ▾ Liquid Oxygen LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

BUILDS

iOS tvOS

FEEDBACK

Crashes Screenshots

TESTERS & GROUPS

All Testers App Store Connect Users

Friends and Family

NEW GROUP +


APP INFORMATION

Test Information About TestFlight Data ?

iOS Builds

The following builds are available to test. [Learn more about build status and metrics.](#)

Version 1.1


Build	App Store Connect Users ?	External Testers ?	Invitations	Installations	Last 7 Days ?
 Testing Expires in 85 Days		Ready to Submit Expires in 85 Days	1	1	

Version 1.0

Copyright 2019 Apple Inc. All rights reserved | [Terms of Service](#) | [Privacy Policy](#) | [Contact Us](#)

9:41

Apps

 **LunchControl**
Version 1.1 (1)
Expires in 85 Days

INSTALL

What to Test

Test the collaborative ordering feature in this release. It should be ready for liftoff!

Send Feedback

Beta Program Website

Terms of Service

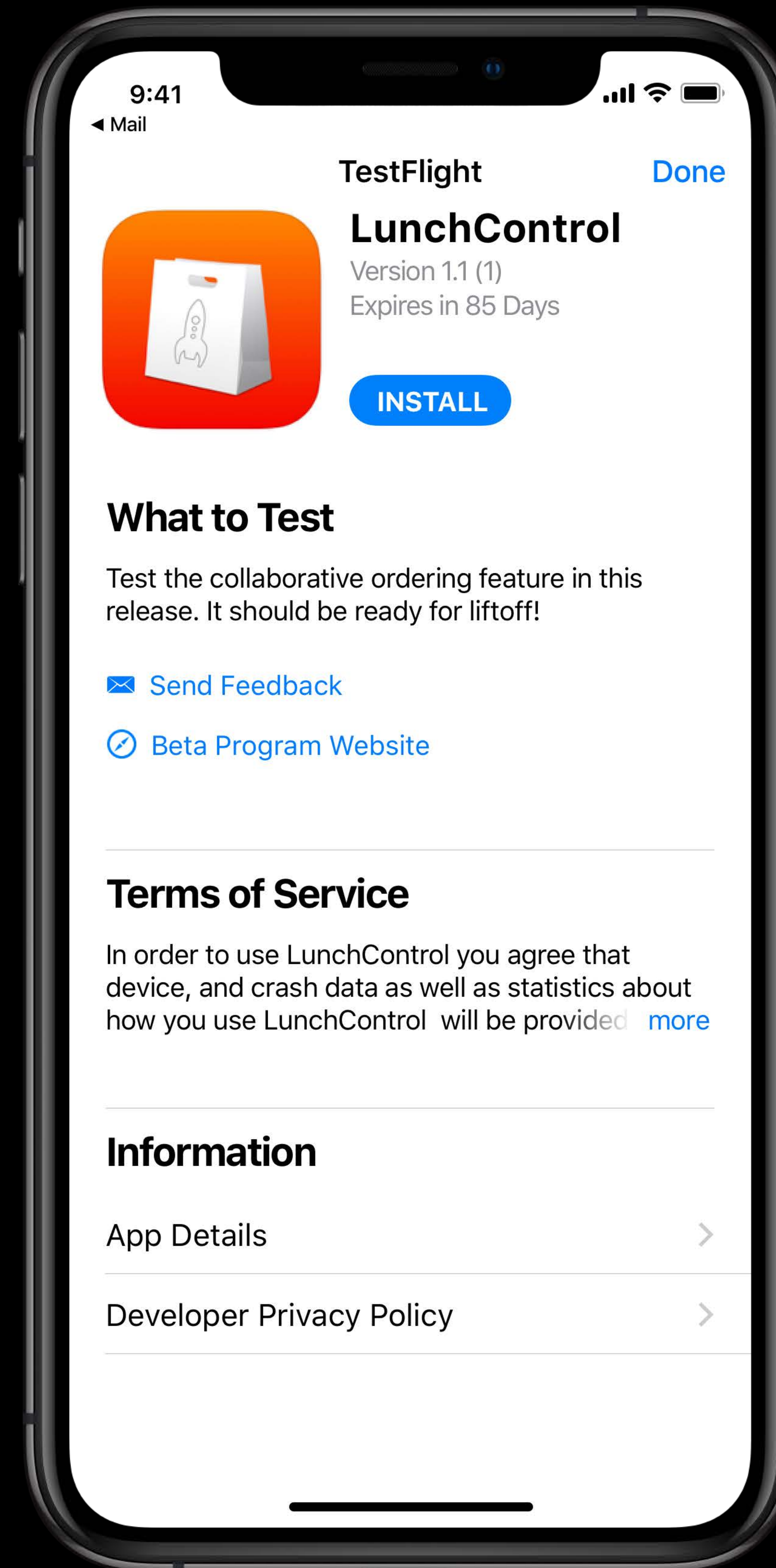
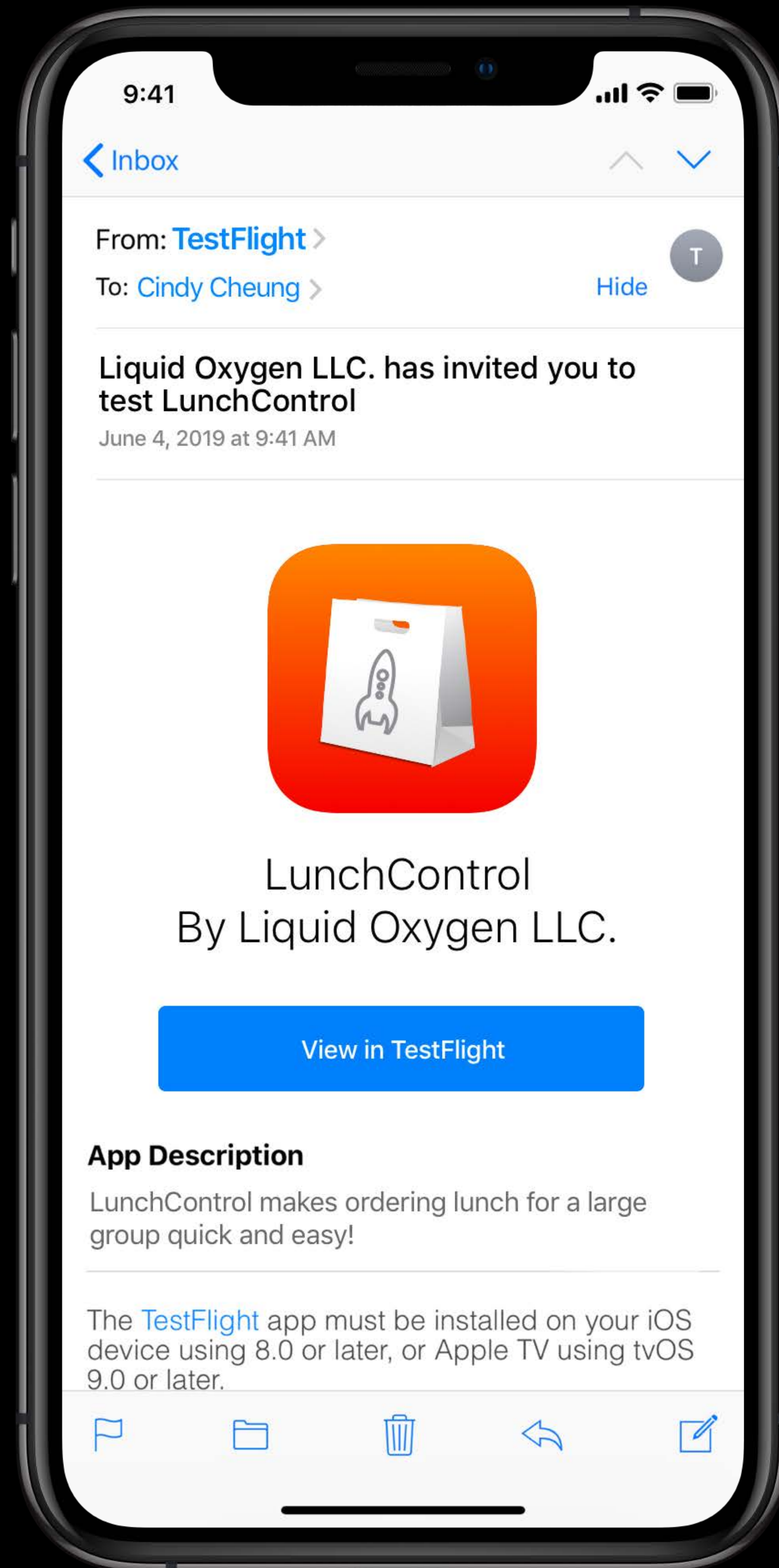
In order to use LunchControl you agree that device, and crash data as well as statistics about how you use LunchControl will be provided [more](#)

Information

App Details >

Developer Privacy Policy >

MacBook Pro

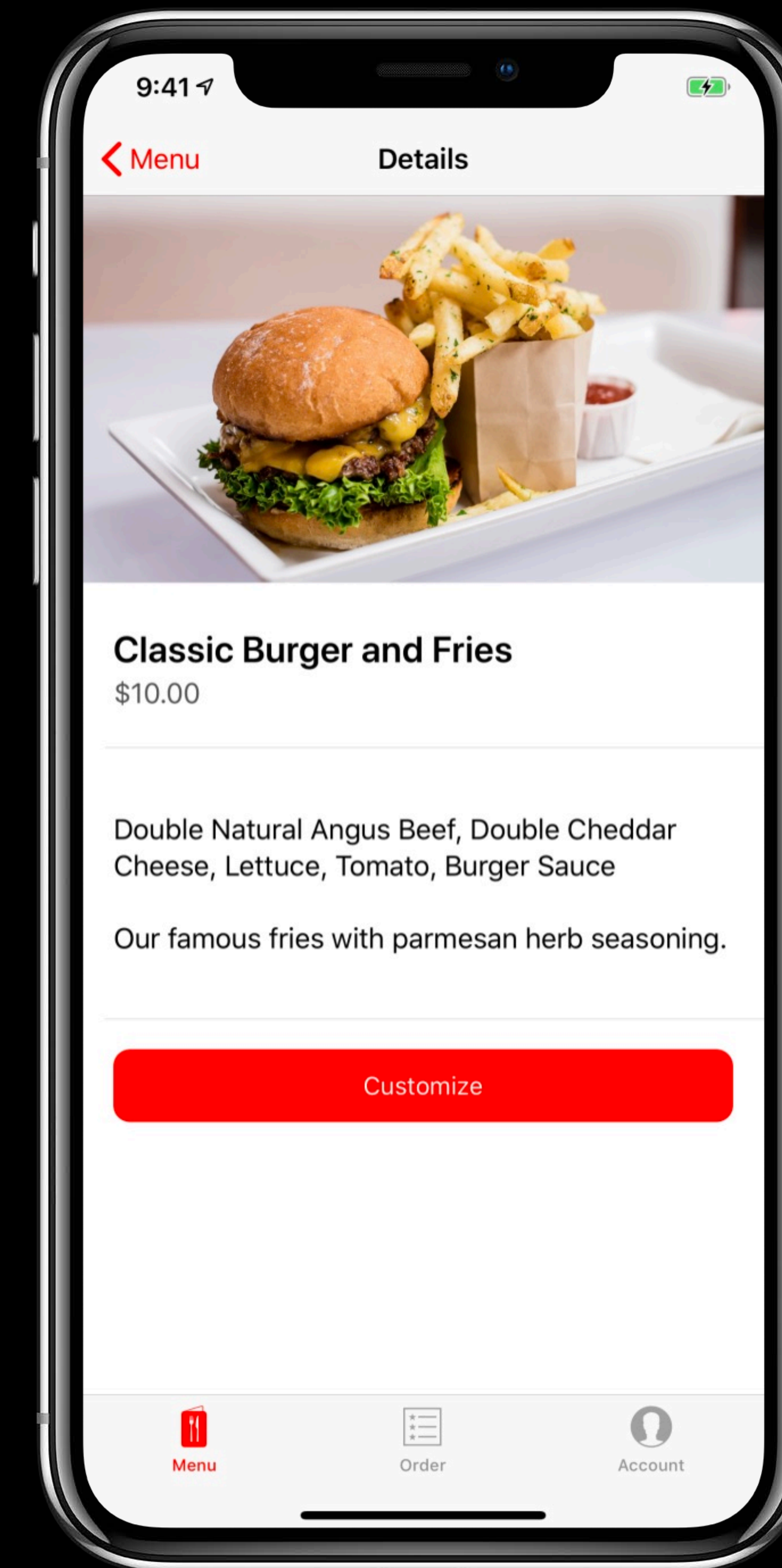


Submitting to the App Store



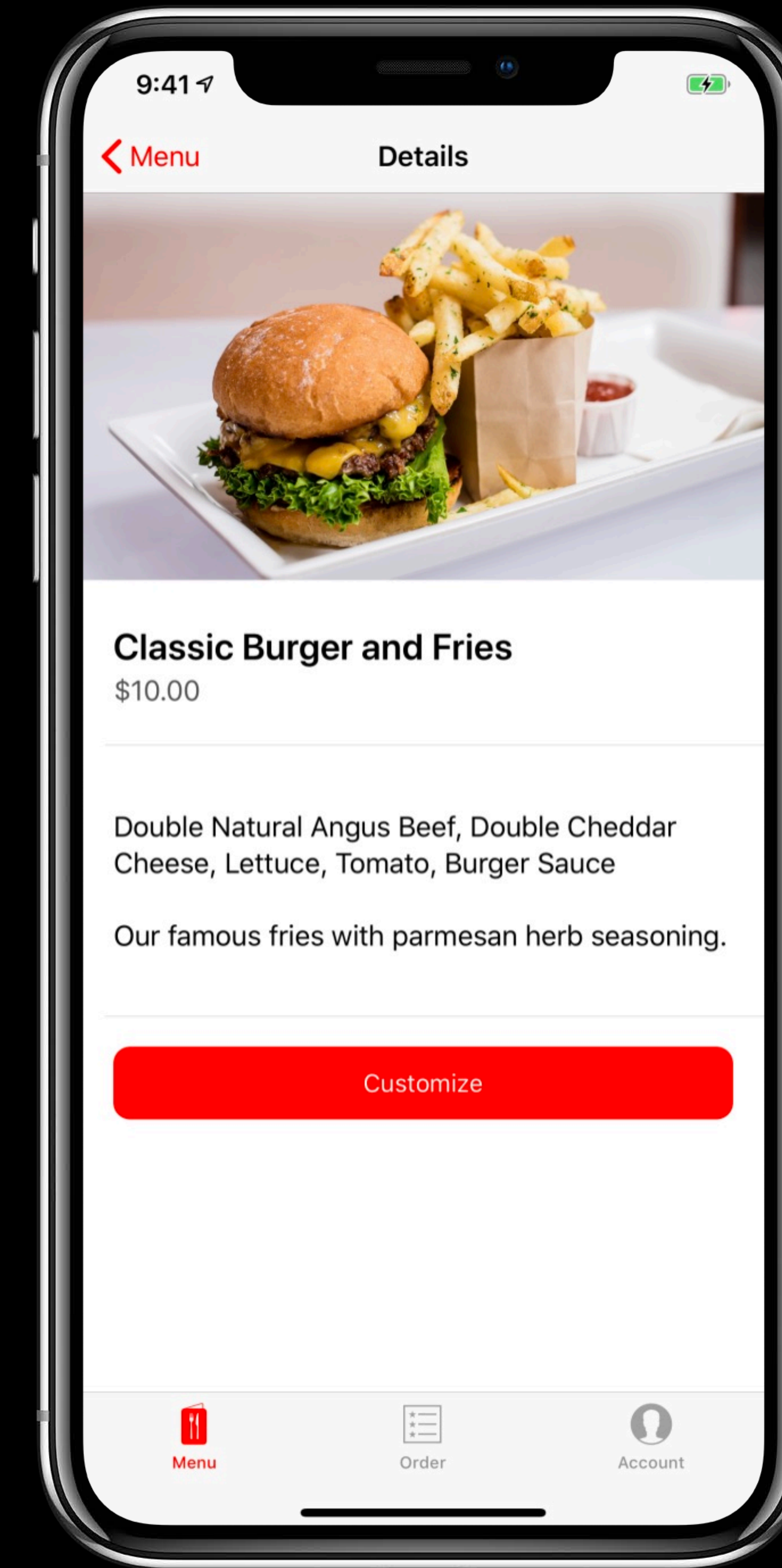
LunchControl 1.0

Ready for lift off!



LunchControl 1.0

Ready for lift off!



LunchControl 1.0

Ready for lift off!



Refined features for a more
general audience

Created marketing material and
demo videos

Ready to submit to the App Store

User



General Public

LunchControl 1.0

Ready for lift off!



Refined features for a more
general audience

Created marketing material and
demo videos

Ready to submit to the App Store

Customer



Individual

App Store

Individuals or organizations can sign up

Apps are available to the general public

Apps are hosted on the App Store

Apps are reviewed by Apple



App Store

Expectations

Know and follow the App Store Review Guidelines

Keep the app current

Make sure the app is appropriate for the general public

LunchControl

Purchasing apps in bulk



Some friends who are teachers
love the app

School wants to purchase in bulk

You want to offer an educational
discount

User



Teachers

Customer



School

Buying Apps in Bulk



Apple Business
Manager



Apple School
Manager

Educational Discounts

The screenshot shows the App Store Connect interface for the app 'LunchControl'. The page is titled 'Pricing and Availability' and includes a 'Save' button in the top right corner. The left sidebar shows the navigation menu with 'Pricing and Availability' selected. The main content area is divided into three sections: 'Price Schedule', 'Availability', and 'Distribution for Business and Education'. The 'Price Schedule' section shows a table with columns for Price, Start Date, and End Date. The current price is set to USD \$5.99 (Tier 4) with a dropdown for 'Other Currencies'. The 'Availability' section has two radio buttons: 'Available in all territories' (selected) and 'Remove from sale'. The 'Distribution for Business and Education' section has three radio buttons: 'Available at a reduced price for educational institutions' (selected), 'Available for education and business without a reduced price', and 'Available privately as a custom app for business'. A link for 'Last-Compatible Version Settings' is visible at the bottom.

App Store Connect My Apps ▾ LunchControl ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

- App Information
- Pricing and Availability**

iOS APP

- 1.0 Ready for Sale

tvOS APP

- 1.0 Pending Developer ...

⊕ VERSION OR PLATFORM

Pricing and Availability Save

Price Schedule All Prices and Currencies

Price ?	Start Date ?	End Date ?
USD \$5.99 (Tier 4) ▾ Other Currencies	Starting Price	No End Date

[Plan a Price Change](#)

Availability

- Available in all territories [Edit](#)
- Remove from sale

Distribution for Business and Education

- Available at a reduced price for educational institutions ?
- Available for education and business without a reduced price
- Available privately as a custom app for business ?

› Last-Compatible Version Settings

Educational Discounts

App Store Connect My Apps LunchControl Cindy Cheung Liquid Oxygen, LLC

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

App Information

Pricing and Availability

IOS APP

1.0 Ready for Sale

tvOS APP

1.0 Pending Developer ...

VERSION OR PLATFORM

Pricing and Availability

Save

Price Schedule

All Prices and Currencies

Price ?	Start Date ?	End Date ?
USD \$5.99 (Tier 4) Other Currencies	Starting Price	No End Date

Plan a Price Change

Availability

Available in all territories Edit

Remove from sale

Distribution for Business and Education

Available at a reduced price for educational institutions ?

Available for education and business without a reduced price

Available privately as a custom app for business ?

> Last-Compatible Version Settings

LunchControl

Proper versioning and adding features



Feature requests are increasing

Product is expanding

Considering multiple app versions

User



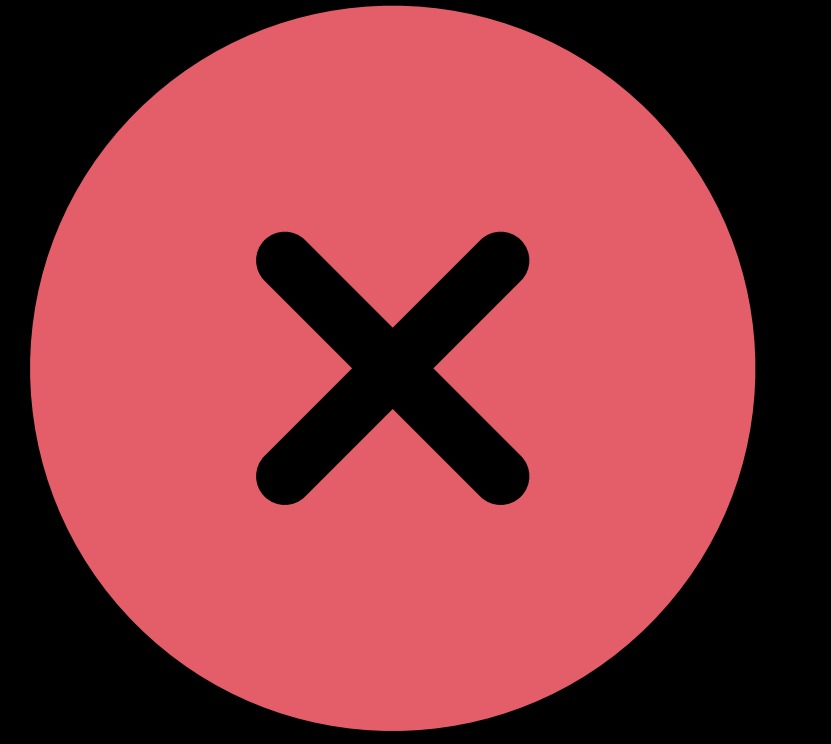
General Public

Customer



Organizations

Improper Versioning



Screenshot of the iTunes Store page for Liquid Oxygen, LLC, illustrating improper versioning.

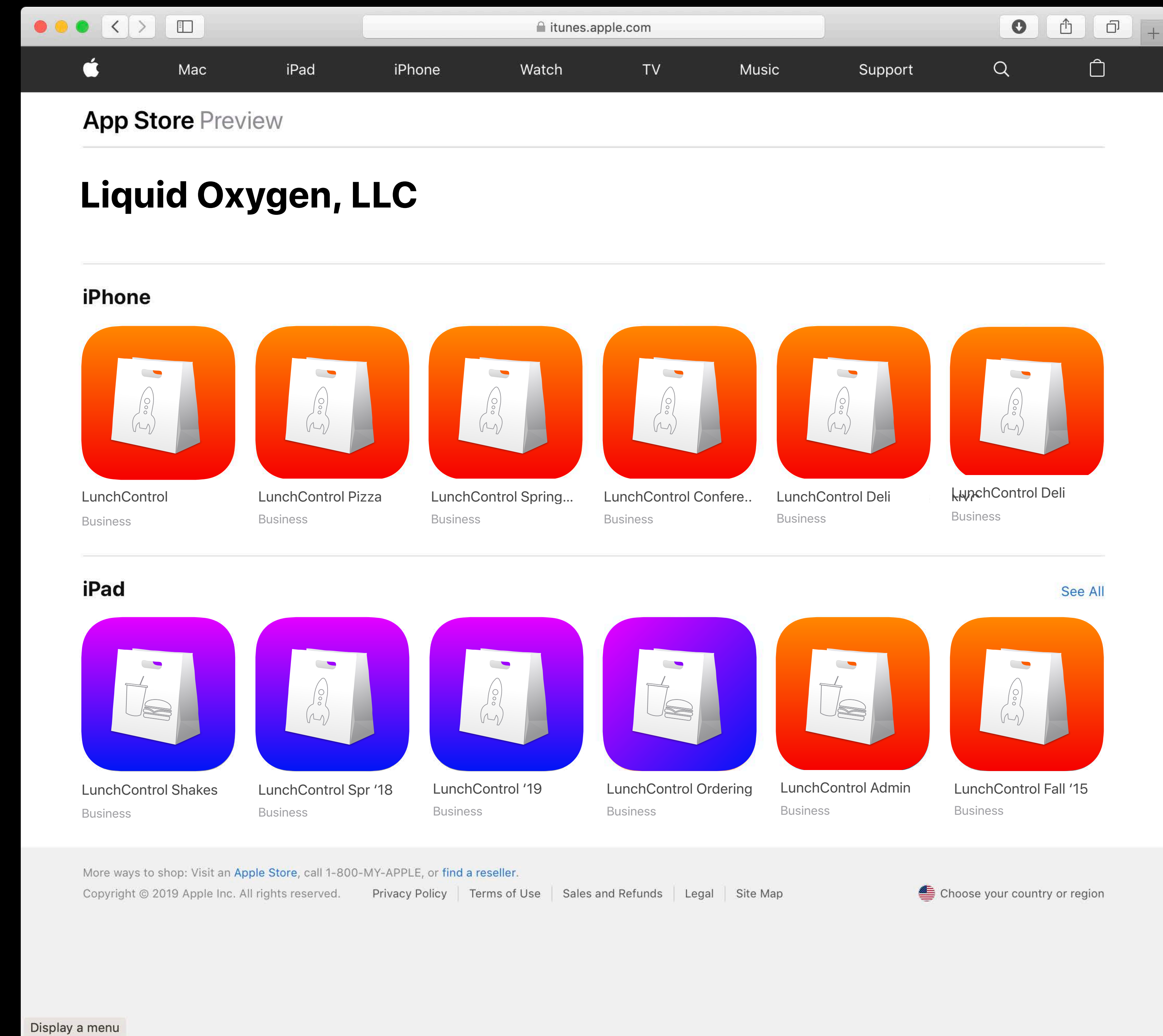
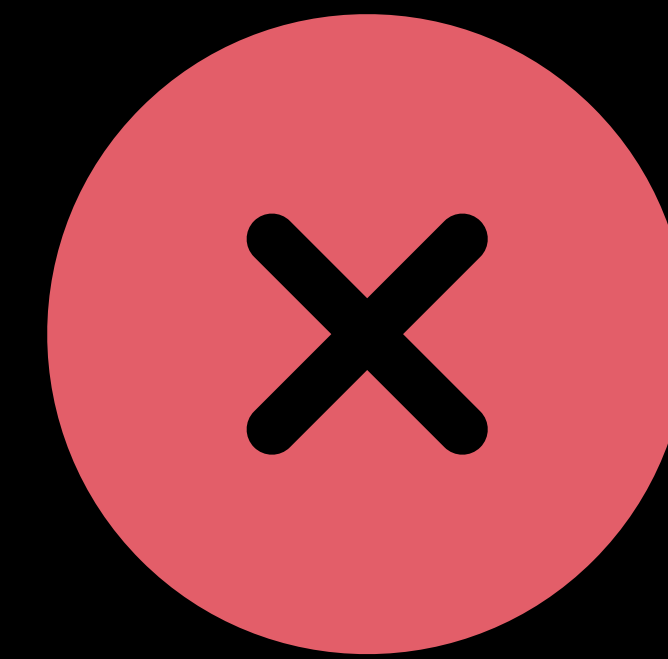
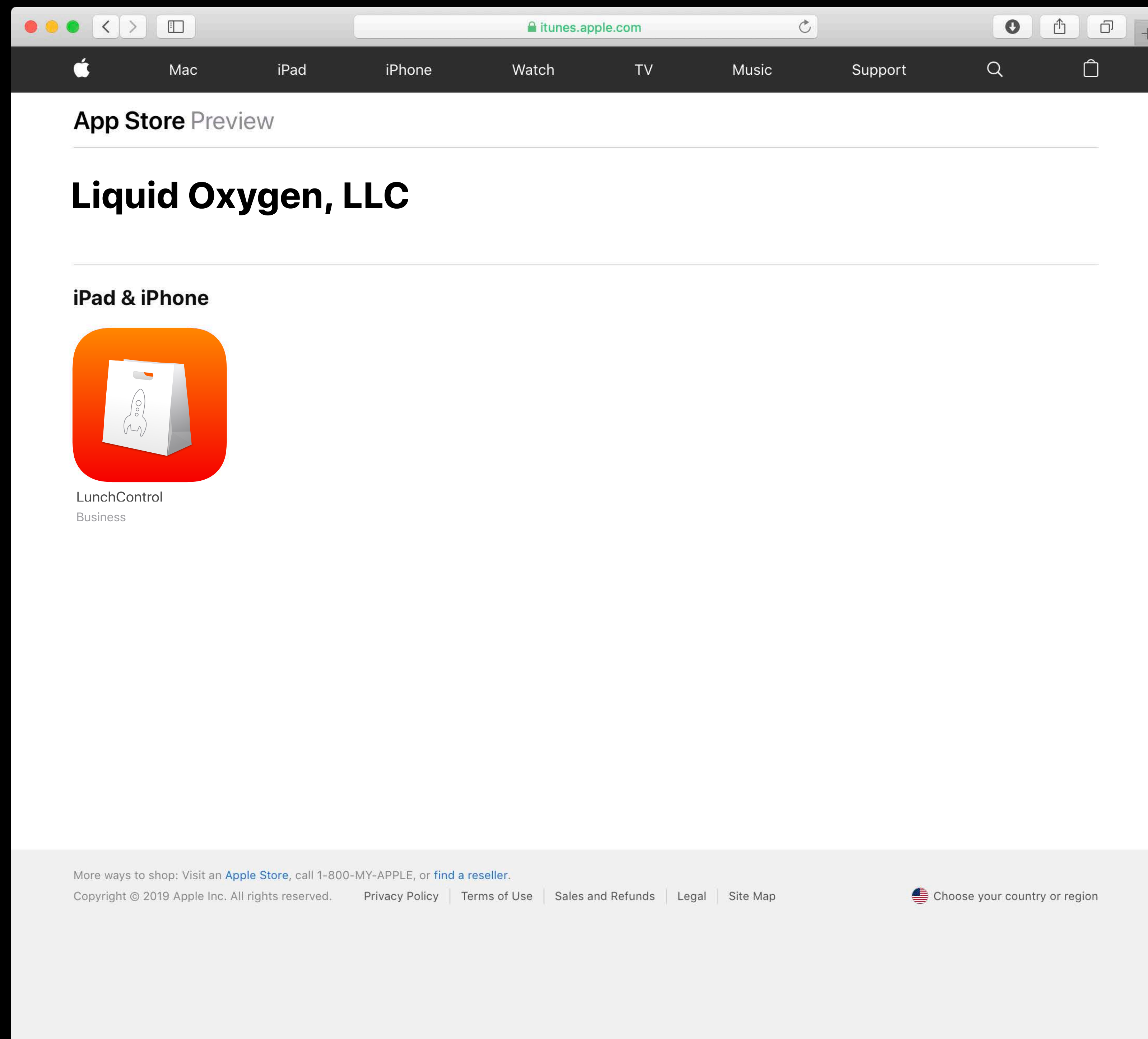
The page shows the following structure:

- App Store Preview**
- Liquid Oxygen, LLC**
- iPhone** (with a [See All](#) link)
- Six app icons for iPhone, each with a rocket ship logo on a white bag icon:
 - LunchControl Business
 - LunchControl Pizza Business
 - LunchControl Spring... Business
 - LunchControl Confere... Business
 - LunchControl Deli Business
 - LunchControl Deli NYC Business
- iPad** (with a [See All](#) link)
- Six app icons for iPad, each with a rocket ship logo on a white bag icon:
 - LunchControl Shakes Business
 - LunchControl Spr '18 Business
 - LunchControl '19 Business
 - LunchControlOrdering Business
 - LunchControl Admin Business
 - LunchControl Fall '15 Business

More ways to shop: Visit an [Apple Store](#), call 1-800-MY-APPLE, or [find a reseller](#).

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Consolidate App Versions



Building an App Store App for Someone Else



Building an App Store App for Someone Else



LunchControl

Building an App Store app for someone else



Taco Bar loves LunchControl and wants you to build them their own app

Customers could place orders and find Taco Bar locations

Maintain control over your intellectual property

User



General Public

Customer



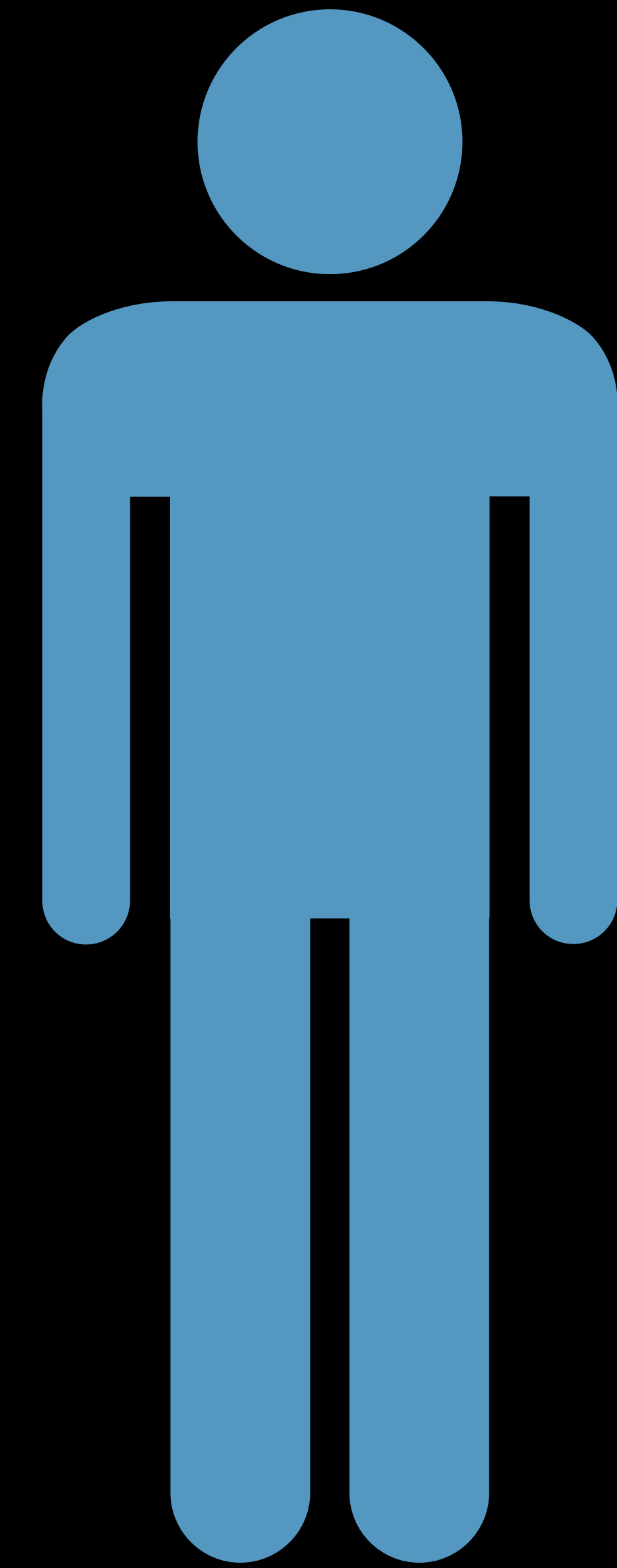
Taco Bar

Working with a Third Party Developer

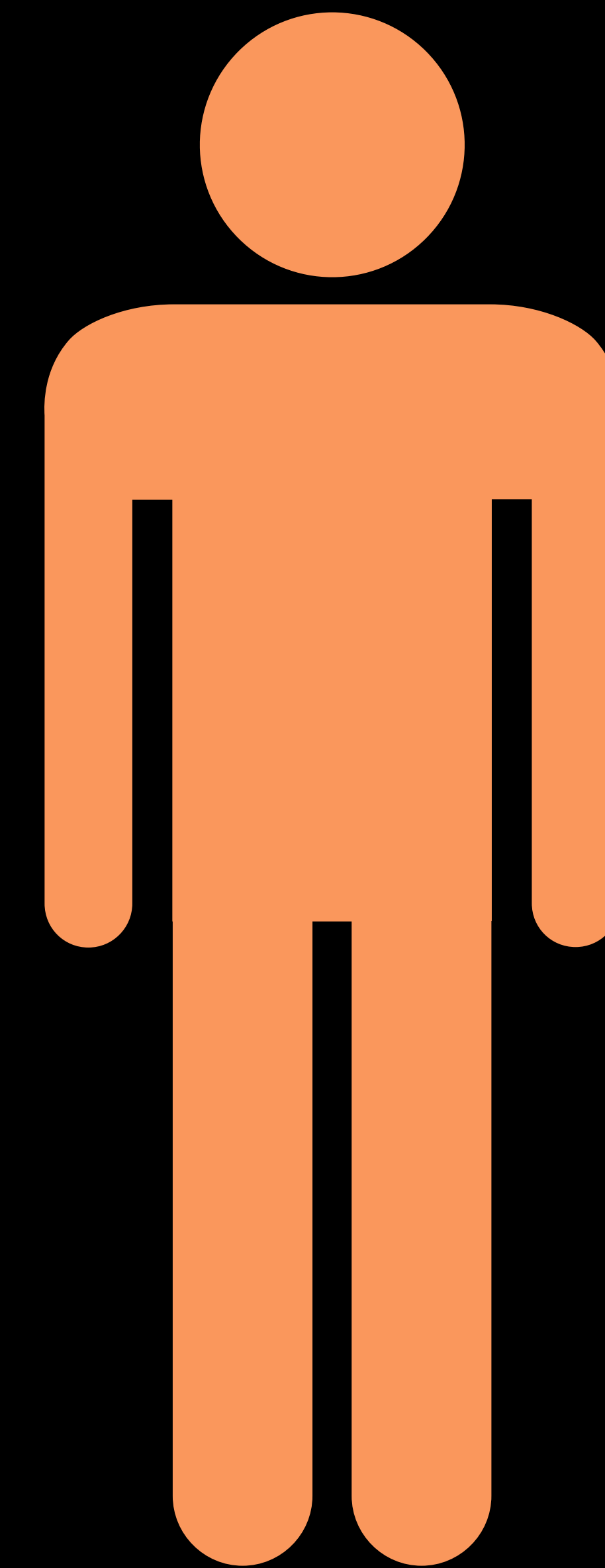


Working with a Third Party Developer

Assigning user permissions



+



Developer

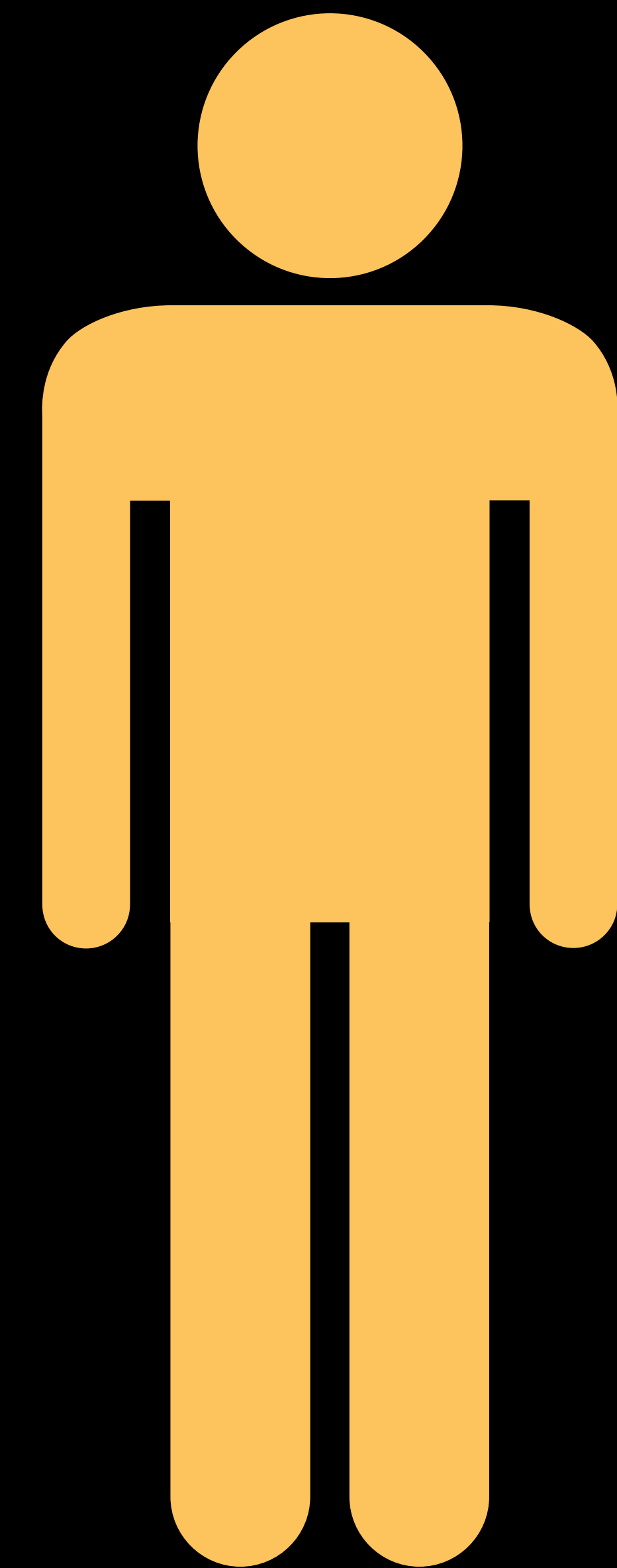
Upload builds

Marketing

Provide metadata

Working with a Third Party Developer

Assigning internal user permissions



Admin

TestFlight Distribution

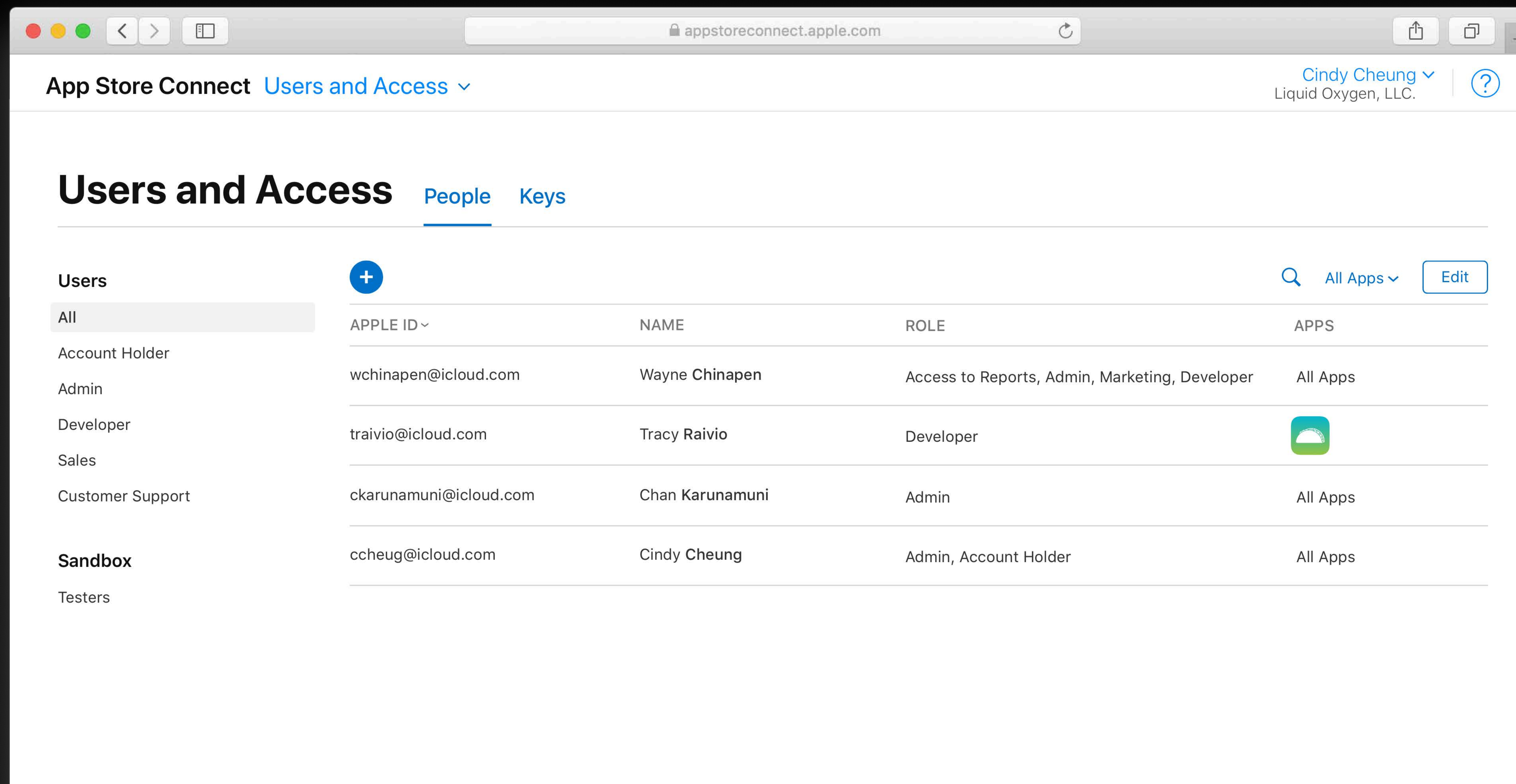
Pricing

Submission


Go-Live on the App Store

Working with a Third Party Developer

Assigning user permissions

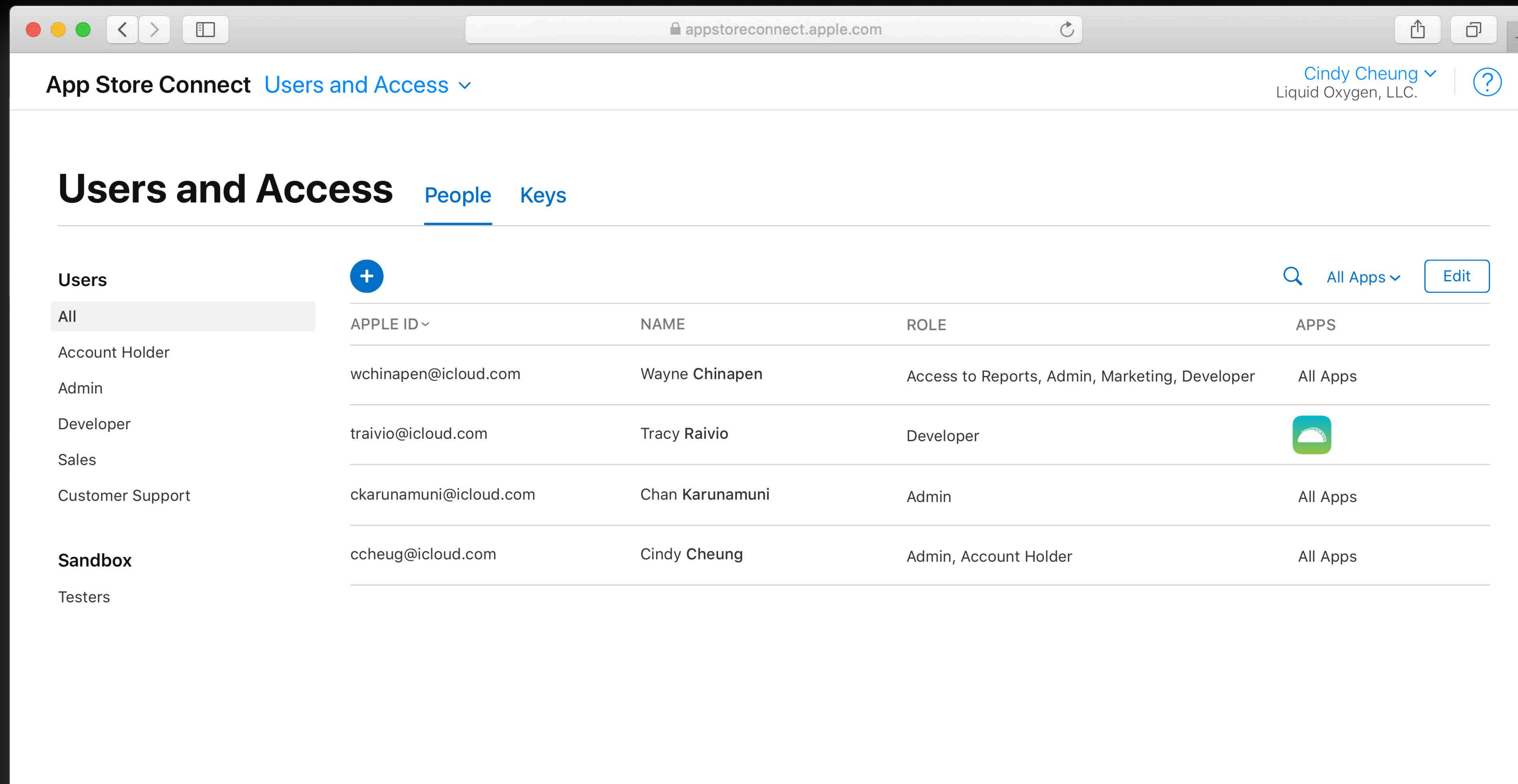


The screenshot shows the 'Users and Access' page in App Store Connect. The page is titled 'Users and Access' and has two tabs: 'People' (selected) and 'Keys'. On the left, there is a sidebar with 'Users' and 'Sandbox' sections. Under 'Users', there are categories: 'All' (selected), 'Account Holder', 'Admin', 'Developer', 'Sales', and 'Customer Support'. Under 'Sandbox', there is 'Testers'. A blue plus icon is visible next to the 'All' category. The main content area displays a table of users with columns for 'APPLE ID', 'NAME', 'ROLE', and 'APPS'. The table lists five users: Wayne Chinapen (Admin, Marketing, Developer), Tracy Raivio (Developer), Chan Karunamuni (Admin), and Cindy Cheung (Admin, Account Holder). A search bar and an 'Edit' button are located at the top right of the table.


APPLE ID	NAME	ROLE	APPS
wchinapen@icloud.com	Wayne Chinapen	Access to Reports, Admin, Marketing, Developer	All Apps
traivio@icloud.com	Tracy Raivio	Developer	
ckarunamuni@icloud.com	Chan Karunamuni	Admin	All Apps
ccheug@icloud.com	Cindy Cheung	Admin, Account Holder	All Apps

Working with a Third Party Developer

Assigning user permissions

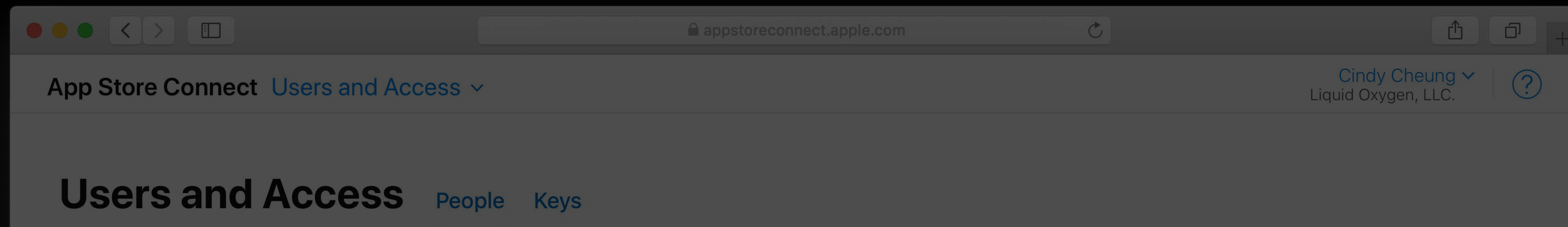


The screenshot shows the 'Users and Access' page in App Store Connect. The page is titled 'Users and Access' and has two tabs: 'People' (selected) and 'Keys'. On the left, there is a sidebar with 'Users' and 'Sandbox' sections. Under 'Users', there are categories: 'All', 'Account Holder', 'Admin', 'Developer', 'Sales', and 'Customer Support'. Under 'Sandbox', there is 'Testers'. A blue plus icon is visible next to the 'All' category. The main content area displays a table of users with columns for 'APPLE ID', 'NAME', 'ROLE', and 'APPS'. The table lists five users: Wayne Chinapen (Admin, Marketing, Developer), Tracy Raivio (Developer), Chan Karunamuni (Admin), and Cindy Cheung (Admin, Account Holder). A search bar and an 'Edit' button are located at the top right of the table.

APPLE ID	NAME	ROLE	APPS
wchinapen@icloud.com	Wayne Chinapen	Access to Reports, Admin, Marketing, Developer	All Apps
traivio@icloud.com	Tracy Raivio	Developer	
ckarunamuni@icloud.com	Chan Karunamuni	Admin	All Apps
ccheug@icloud.com	Cindy Cheung	Admin, Account Holder	All Apps

Working with a Third Party Developer

Assigning user permissions



APPLE ID	NAME	ROLE	APPS
wchinapen@icloud.com	Wayne Chinapen	Access to Reports, Admin, Marketing, Developer	All Apps
traivio@icloud.com	Tracy Raivio	Developer	
ckarunamuni@icloud.com	Chan Karunamuni	Admin	All Apps
ccheug@icloud.com	Cindy Cheung	Admin, Account Holder	All Apps

Third Party Developer

Expectations

Apps are submitted under client accounts

Customer is legally responsible for the apps published under their brand*

Limit access to powerful roles

Follow best practices for versioning

*Refer to App Store Review Guidelines, Section 5.2

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

LunchControl

Custom internal version



Acme Company wants a custom version

Corporate cafeteria and catering

The app would be for employees

User



Acme Employees

Customer



Acme Company

Private Distribution



In-House



Custom Apps

In-House Distribution

Proprietary apps built by internal developers for their employees

Organization owns and maintains the source code

Distribution is outside of the store

Organization distributes the app, usually via MDM (not publicly posted)



In-House Distribution

Expectations

Users must be employees

Distribution certificates should be protected

Certificate lifecycle needs to be managed

DIY Beta Testing and Hosting

Apps require periodic access to the internet

In-House Distribution

Expectations

Users must be employees

Distribution certificates should be protected

Certificate lifecycle needs to be managed

DIY Beta Testing and Hosting

Apps require periodic access to the internet

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Private Distribution with Custom Apps

Business to business, or business to self

NEW



Custom Apps

Part of the Apple Developer Program

Privately offer customized apps to customers you identify or to yourself

Apps for partners, clients, franchisees, internal employees, and affiliates

Distribute licenses via MDM or Redemption codes



Benefits of Custom Apps

One program to manage all of your apps (internal and external)

Apps don't expire

Apps are managed individually

Apps can be distributed to much larger audiences

Easier to work with third-party software vendors

Additional App Store features

TestFlight and App Store Connect tools

Benefits of Custom Apps

One program to manage all of your apps (internal and external)

Apps don't expire

Apps are managed individually

Apps can be distributed to much larger audiences

Easier to work with third-party software vendors

Additional App Store features

TestFlight and App Store Connect tools

Creating a Custom App

Step 1: Account setup

Accept both the Apple Developer Program License Agreement and the Paid Application agreement

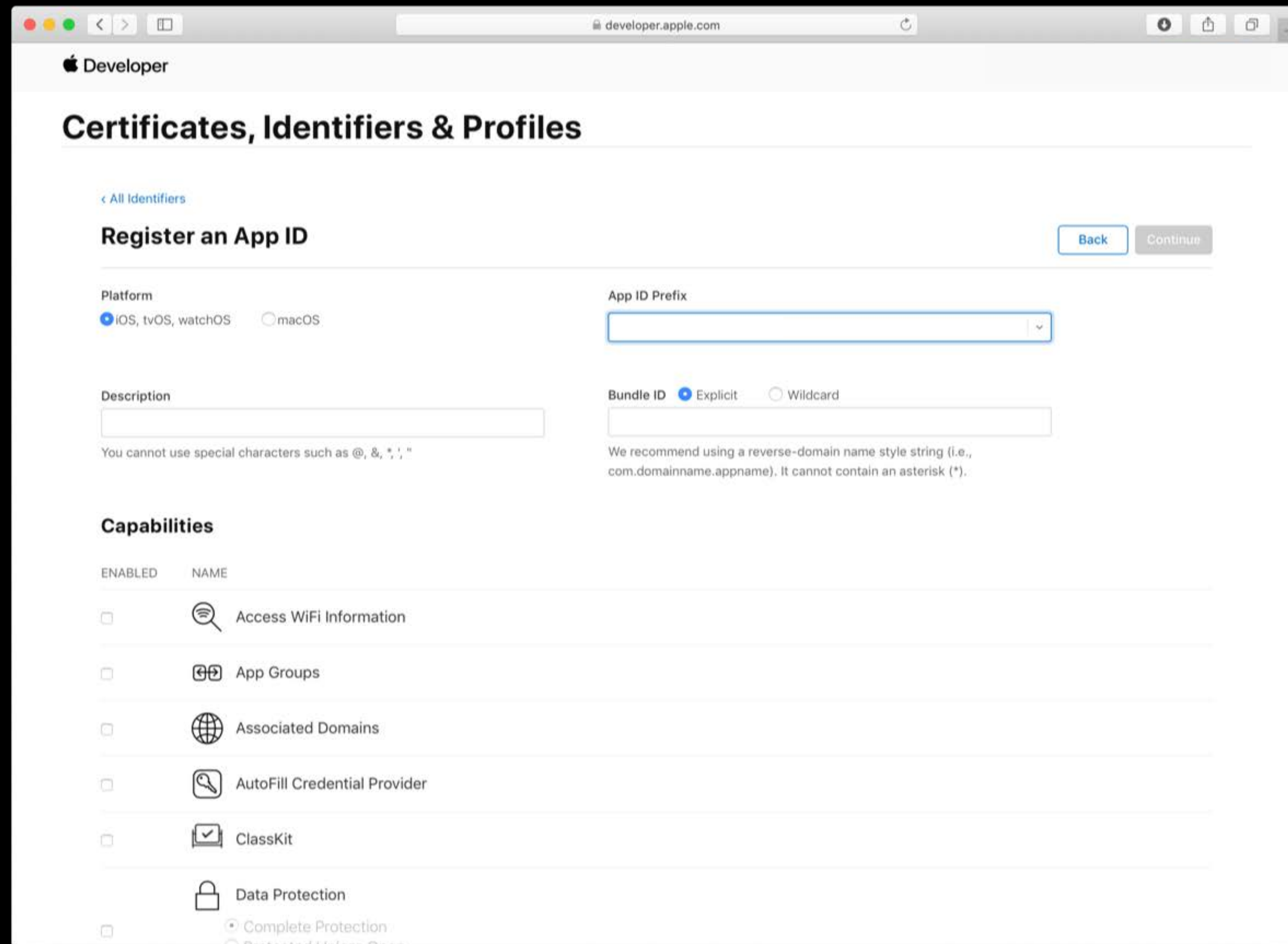
Provide tax and banking in App Store Connect

Leverage roles to define proper access for all team members



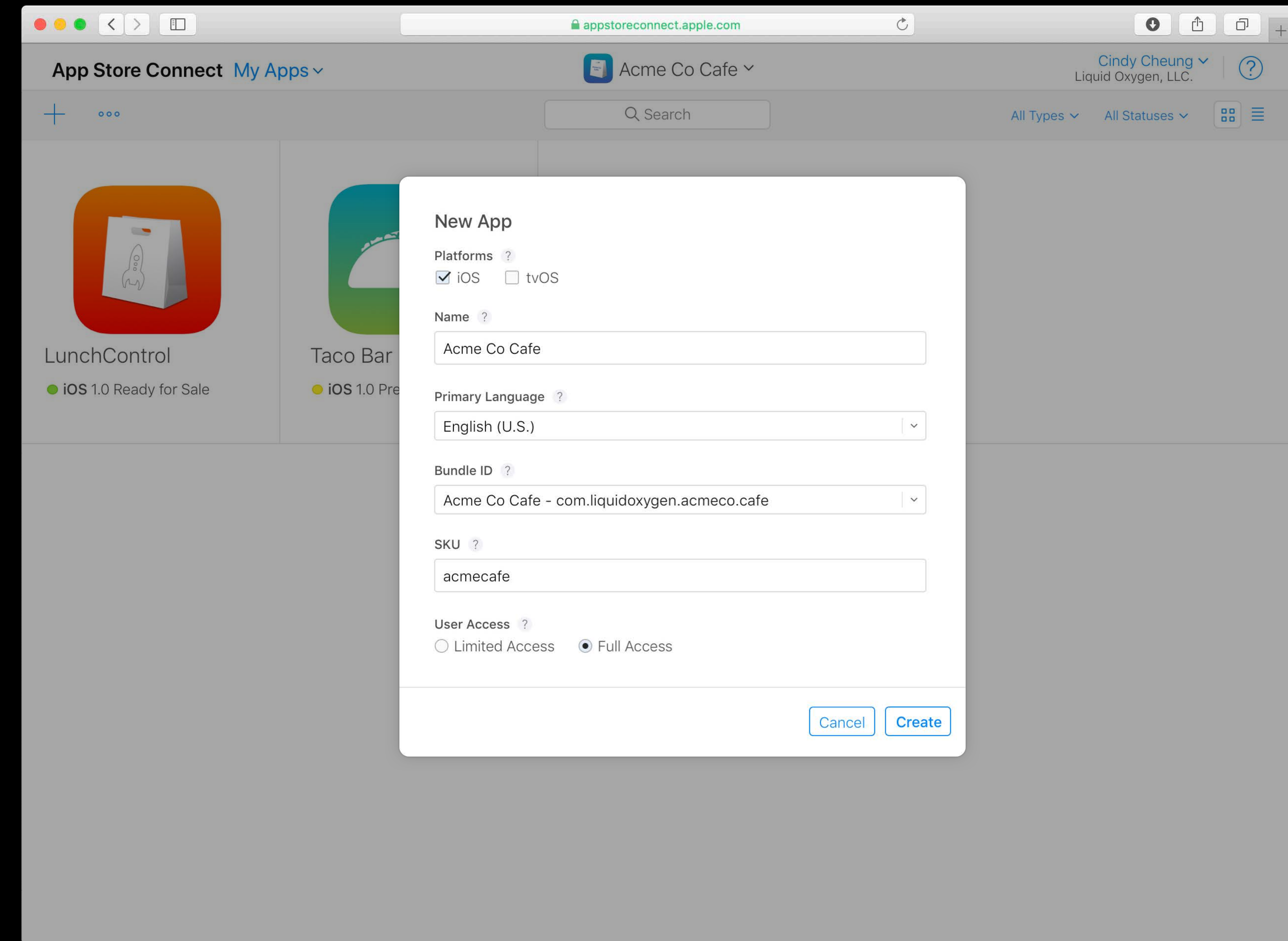
Creating a Custom App

Step 2: New App ID and App Record



App ID

developer.apple.com/account

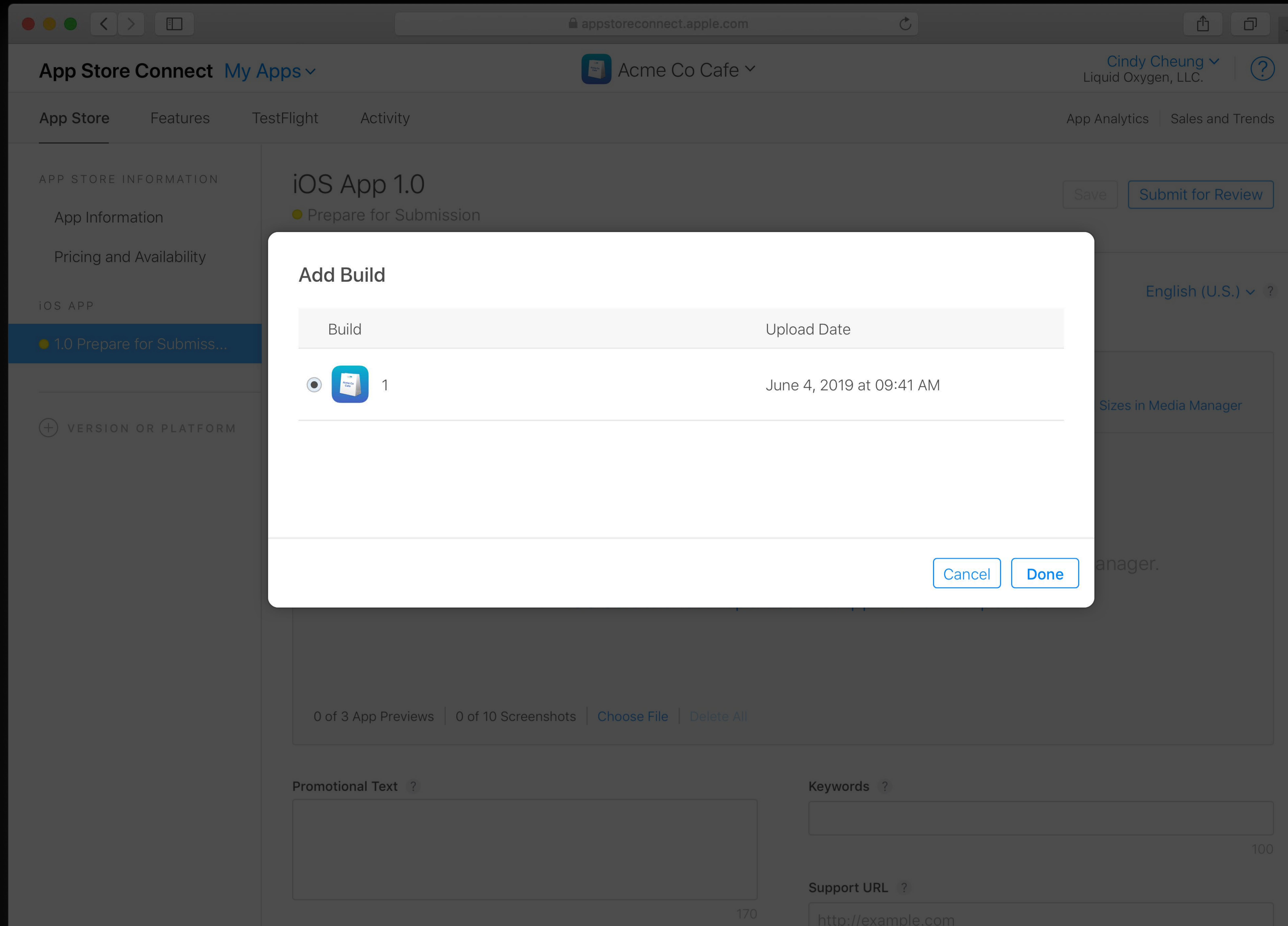


App Record


[App Store Connect](https://appstoreconnect.apple.com)

Creating a Custom App

Step 3: Upload a build

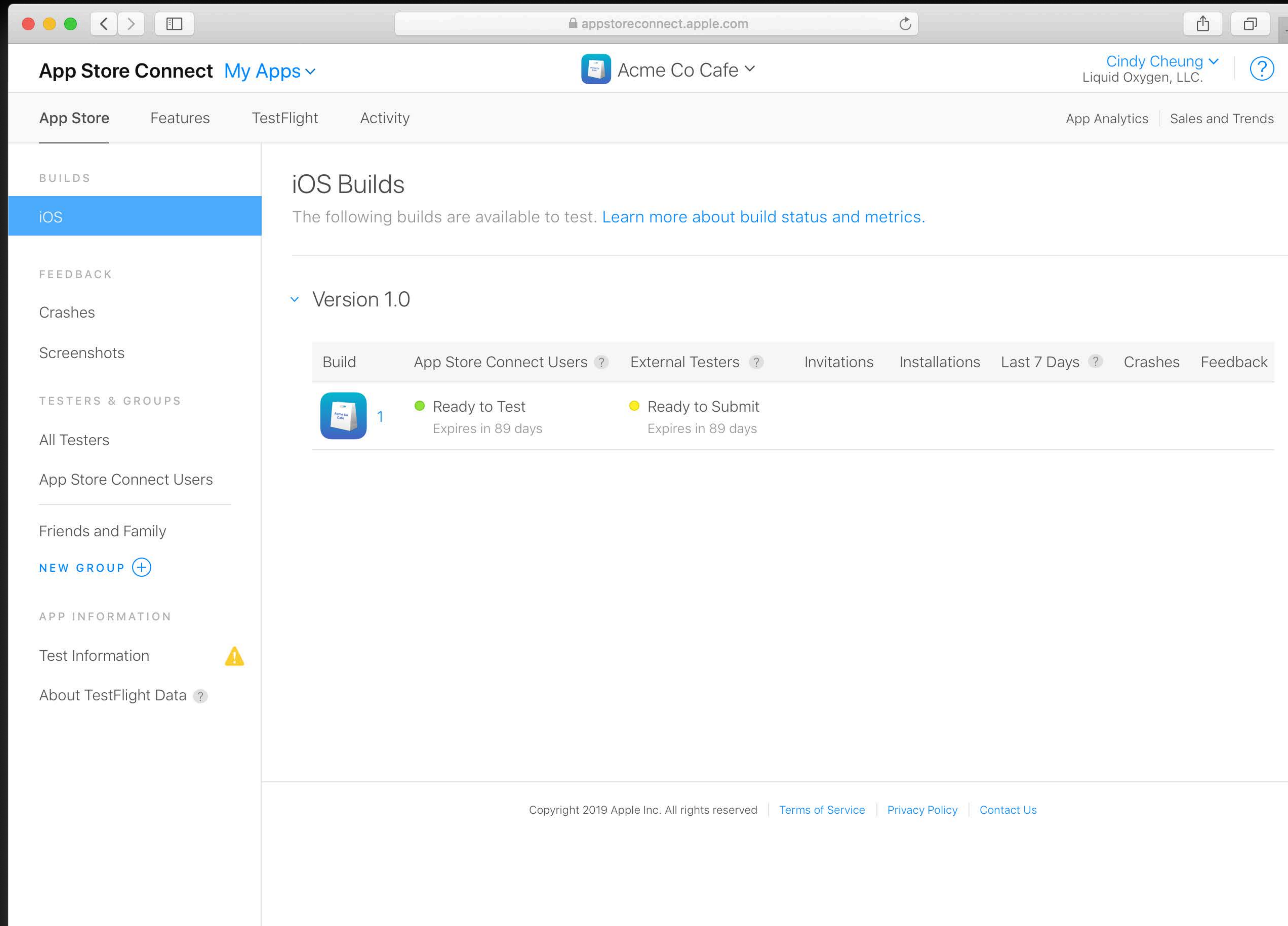


The screenshot displays the App Store Connect web interface for an app named "Acme Co Cafe". The main content area shows the "iOS App 1.0" version, which is in the "Prepare for Submission" state. A modal dialog box titled "Add Build" is open in the foreground, showing a table of available builds. The table has two columns: "Build" and "Upload Date". One build is listed with a radio button selected next to it, indicating it is the chosen build for upload. The build is identified by a small app icon and the number "1", and it was uploaded on "June 4, 2019 at 09:41 AM". At the bottom of the dialog, there are "Cancel" and "Done" buttons. The background interface includes navigation tabs for "App Store", "Features", "TestFlight", and "Activity", as well as a sidebar with "APP STORE INFORMATION" and "iOS APP" sections. The top right corner shows the user's name "Cindy Cheung" and the company "Liquid Oxygen, LLC".

Build	Upload Date
<input checked="" type="radio"/>  1	June 4, 2019 at 09:41 AM

Creating a Custom App

Step 4: Beta test with TestFlight



The screenshot shows the App Store Connect interface for the app "Acme Co Cafe". The user is logged in as "Cindy Cheung" from "Liquid Oxygen, LLC". The "iOS Builds" section is active, showing a table of builds for "Version 1.0".

App Store Connect My Apps ▾ Acme Co Cafe ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

BUILDS

- iOS

FEEDBACK

- Crashes
- Screenshots

TESTERS & GROUPS

- All Testers
- App Store Connect Users
- Friends and Family
- NEW GROUP (+)


APP INFORMATION

- Test Information ⚠
- About TestFlight Data ?

iOS Builds

The following builds are available to test. [Learn more about build status and metrics.](#)

▾ Version 1.0

Build	App Store Connect Users ?	External Testers ?	Invitations	Installations	Last 7 Days ?	Crashes	Feedback
 1	● Ready to Test Expires in 89 days	● Ready to Submit Expires in 89 days					

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Creating a Custom App

Step 5: List the app for sale as a Custom App

The screenshot shows the 'Pricing and Availability' section of the App Store Connect interface. The page is for the app 'Acme Co Cafe' and is accessed by user 'Cindy Cheung' from 'Liquid Oxygen, LLC'. The left sidebar shows 'APP STORE INFORMATION' with 'Pricing and Availability' selected. The main content area is divided into sections: 'Price Schedule', 'Pre-Orders', 'Availability', and 'Distribution for Business and Education'. The 'Price Schedule' section shows a price of 'USD \$5.99 (Tier 4)' with a 'Starting Price' and 'No End Date'. The 'Pre-Orders' section has an unchecked checkbox for 'Make available for pre-order'. The 'Availability' section shows 'Available in all territories'. The 'Distribution for Business and Education' section has three radio button options, with 'Available privately as a custom B2B app' selected.

App Store Connect My Apps Acme Co Cafe Cindy Cheung Liquid Oxygen, LLC

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

App Information

Pricing and Availability

iOS APP

1.0 Prepare for Submiss...

VERSION OR PLATFORM

Pricing and Availability

Save

Price Schedule

All Prices and Currencies

Price ?	Start Date ?	End Date ?
USD \$5.99 (Tier 4) Other Currencies	Starting Price	No End Date

[Plan a Price Change](#)

Pre-Orders

Pre-orders allow customers to buy your app in advance. On the release date, customers who pre-ordered your app will be charged for the purchase and notified of its availability. Only the first version of an app can be made available for pre-order. [Learn more.](#)

Make available for pre-order

Availability

Available in all territories [Edit](#)

Distribution for Business and Education

Available with a volume discount for educational institutions ?

Available with no discount

Available privately as a custom B2B app ?

Creating a Custom App

Step 5: List the app for sale as a Custom App

The screenshot shows the 'Pricing and Availability' configuration page in App Store Connect. The page is for the app 'Acme Co Cafe' and is accessed by user 'Cindy Cheung' from 'Liquid Oxygen, LLC'. The left sidebar shows 'APP STORE INFORMATION' with 'Pricing and Availability' selected. The main content area is divided into sections: 'Availability' (set to 'Available in all territories'), 'Distribution for Business and Education' (set to 'Available privately as a custom B2B app'), and 'Last-Compatible Version Settings'. The 'Distribution for Business and Education' section includes a table for DEP IDs.

App Store Connect My Apps ▾ Acme Co Cafe ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

- App Information
- Pricing and Availability**

iOS APP

- 1.0 Prepare for Submiss...

⊕ VERSION OR PLATFORM

Pricing and Availability Save

Availability

Available in all territories [Edit](#)

Distribution for Business and Education

- Available with a volume discount for educational institutions ?
- Available with no discount
- Available privately as a custom B2B app ?

Provide at least one DEP Customer ID that is authorized for Apple Business Manager. Customer apps will be available privately and securely to these users. [Learn more about custom app distribution.](#)

Type	ID	Organization Name
DEP ID ▾	Required	Required

> Last-Compatible Version Settings

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Creating a Custom App

Step 5: List the app for sale as a Custom App

The screenshot shows the 'Pricing and Availability' page in App Store Connect. The page is for the app 'Acme Co Cafe' and is accessed by user 'Cindy Cheung' from 'Liquid Oxygen, LLC'. The left sidebar shows 'APP STORE INFORMATION' with 'Pricing and Availability' selected. The main content area is divided into sections: 'Availability' (set to 'Available in all territories'), 'Distribution for Business and Education' (with 'Available privately as a custom app for business' selected), and 'Last-Compatible Version Settings'. A table for DEP IDs is visible, with columns for Type, ID, and Organization Name. The footer contains copyright information and links to Terms of Service, Privacy Policy, and Contact Us.

App Store Connect My Apps ▾ Acme Co Cafe ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

App Information

Pricing and Availability

iOS APP

● 1.0 Prepare for Submiss...

⊕ VERSION OR PLATFORM

Pricing and Availability Save

Availability

Available in all territories [Edit](#)

Distribution for Business and Education

Available at a reduced price for educational institutions ?

Available for education and business without a reduced price

Available privately as a custom app for business ?

Provide at least one DEP Customer ID that is authorized for Apple Business Manager. Custom apps will be available privately and securely to these users. [Learn more about custom app distribution.](#)

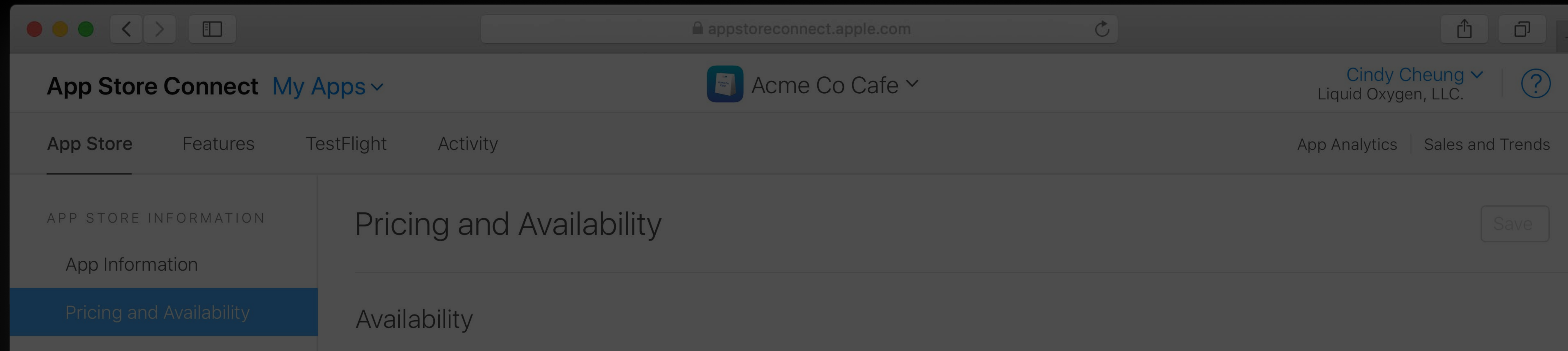
Type	ID	Organization Name
DEP ID ▾	Required	Required

> Last-Compatible Version Settings

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Creating a Custom App

Step 5: List the app for sale as a Custom App



Distribution for Business and Education

- Available at a reduced price for educational institutions ?
- Available for education and business without a reduced price
- Available privately as a custom app for business ?

Provide at least one DEP Customer ID that is authorized for Apple Business Manager. Custom apps will be available privately and securely to these users. [Learn more about custom app distribution.](#)

Type

ID

Organization Name

DEP ID



Required

Required

Creating a Custom App

Step 6: Submit for review

App Store Connect My Apps

Acme Co Cafe

Cindy Cheung
Liquid Oxygen, LLC.

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

- App Information
- Pricing and Availability

iOS APP

- 1.0 Prepare for Submiss...

VERSION OR PLATFORM

iOS App 1.0

● Prepare for Submission

Save Submit for Review

Version Information

English (U.S.)

App Previews and Screenshots

iPhone 6.5" Display iPhone 5.5" Display iPad Pro (3rd Gen) 12.9" Display iPad Pro (2nd Gen) 12.9" Display View All Sizes in Media Manager

0 of 3 App Previews | 2 of 10 Screenshots | Choose File | Delete All

Promotional Text

Keywords

Support URL

Creating a Custom App

Step 6: Submit for review

App Store Connect My Apps ▾ Acme Co Cafe ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

- App Information
- Pricing and Availability

iOS APP

- 1.0 Prepare for Submiss...

VERSION OR PLATFORM

iOS App 1.0

● Prepare for Submission Save Submit for Review

Version Information English (U.S.) ▾ ?

App Previews and Screenshots ?

iPhone 6.5" Display iPhone 5.5" Display iPad Pro (3rd Gen) 12.9" Display iPad Pro (2nd Gen) 12.9" Display [View All Sizes in Media Manager](#)

0 of 3 App Previews | 2 of 10 Screenshots | [Choose File](#) | [Delete All](#)

Promotional Text ?

Keywords ? 100

Support URL ? http://example.com

Creating a Custom App

Step 6: Submit for review

The screenshot shows the App Store Connect interface for the app 'Acme Co Cafe'. The page is titled 'iOS App 1.0' and is in the 'Prepare for Submission' state. A prominent white button with a blue border and the text 'Submit for Review' is overlaid on the right side of the page. The interface includes a sidebar with 'APP STORE INFORMATION' and 'iOS APP' sections. The main content area shows 'Version Information' and 'App Previews and Screenshots'. Under 'App Previews and Screenshots', there are four device icons: iPhone 6.5" Display, iPhone 5.5" Display, iPad Pro (3rd Gen) 12.9" Display, and iPad Pro (2nd Gen) 12.9" Display. Below these icons, there are two preview cards: one for an 'Order Summary' and another for 'Acme Co Cafe' featuring a burger and a sandwich. At the bottom of the preview area, it shows '0 of 3 App Previews' and '2 of 10 Screenshots'. Below the preview area, there are fields for 'Promotional Text', 'Keywords', and 'Support URL'. The 'Support URL' field contains 'http://example.com'.

App Store Connect My Apps ▾ Acme Co Cafe ▾ Cindy Cheung ▾ Liquid Oxygen, LLC. ?

App Store Features TestFlight Activity App Analytics Sales and Trends

APP STORE INFORMATION

- App Information
- Pricing and Availability

iOS APP

- 1.0 Prepare for Submiss...

+ VERSION OR PLATFORM

iOS App 1.0

● Prepare for Submission

Version Information

English (U.S.) ▾ ?

App Previews and Screenshots ?

iPhone 6.5" Display iPhone 5.5" Display iPad Pro (3rd Gen) 12.9" Display iPad Pro (2nd Gen) 12.9" Display View All Sizes in Media Manager

0 of 3 App Previews 2 of 10 Screenshots Choose File Delete All

Promotional Text ?

Keywords ?

Support URL ?

170 100

http://example.com

Purchasing a Custom App

Apple Business Manager

Enroll at business.apple.com

Buy apps, custom apps, and books in bulk

Purchase licenses or redemption codes


Deploy to devices or users

Assign, revoke, and reassign apps



- Organization
- Activity
- Locations
- People
- Accounts
- Roles
- Devices
- Device Assignments
- Assignment History
- Content
- Apps and Books
- Custom Apps**

1 Total

	Acme Co Cafe Acme Inc. · iOS App ☆☆☆☆☆ \$0.00	200 In Use 10 Available
--	--	----------------------------



Acme Co Cafe

Acme Inc. · iOS App · Custom App

✓ Device Assignable

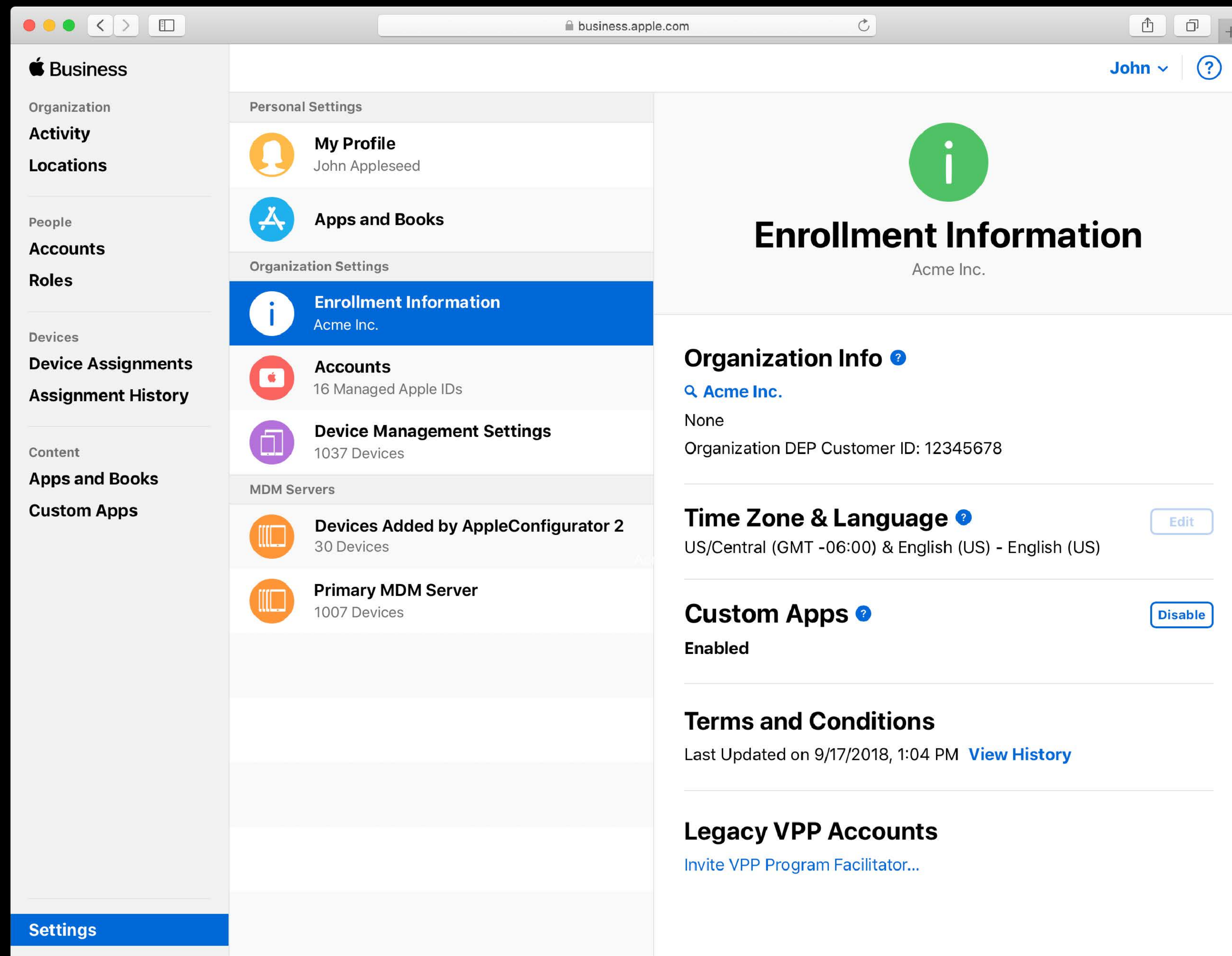
Buy Licenses

License Type		Assign to	
<input type="text" value="Managed"/>		<input type="text" value="Choose a Location"/>	
Price	Quantity	Payment Method	
\$0.00	<input type="text" value="0"/>	None	
Total Cost \$0.00			<input type="button" value="Get"/>

Manage Licenses ?

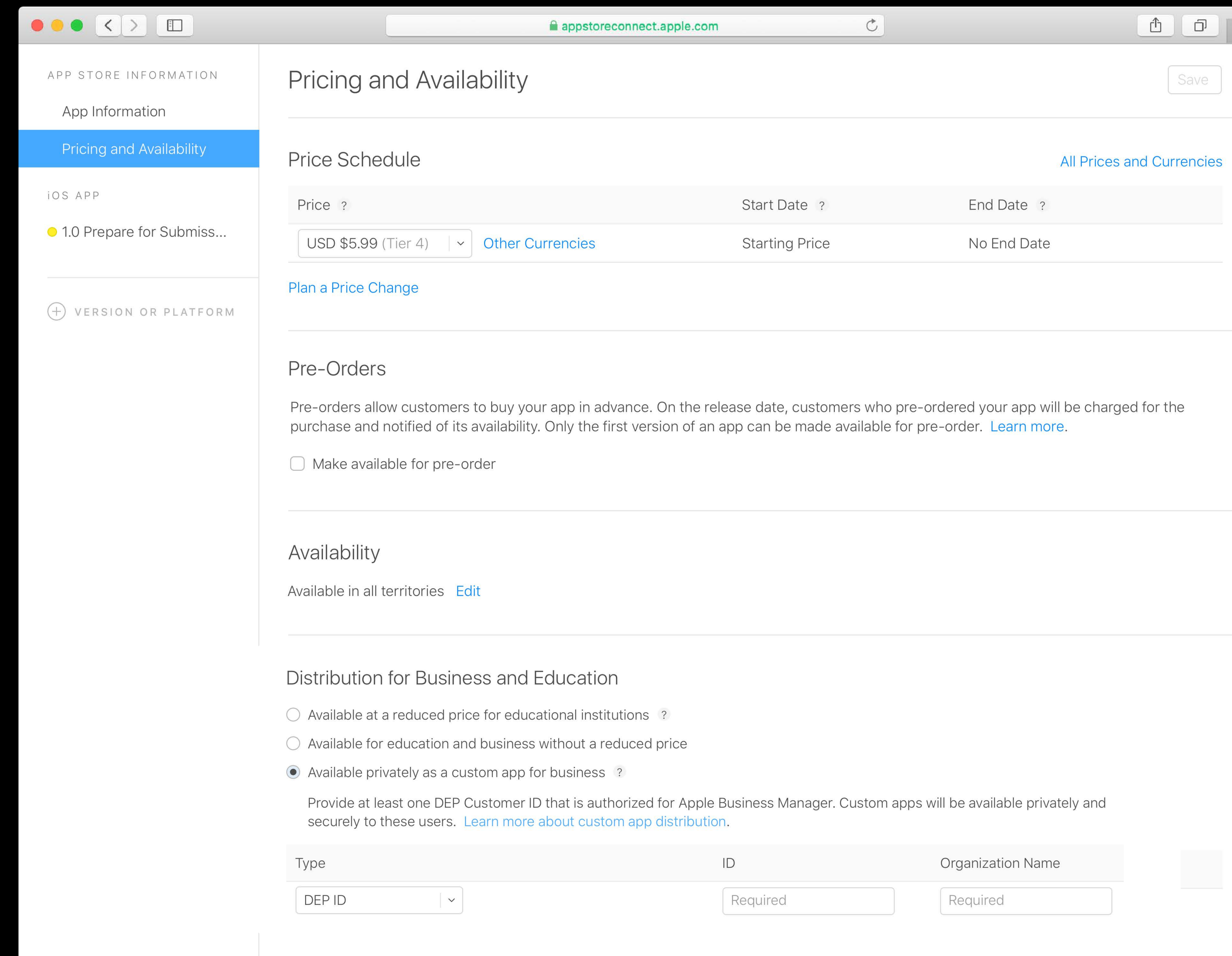
Location	In Use	Available

Custom App Workflow



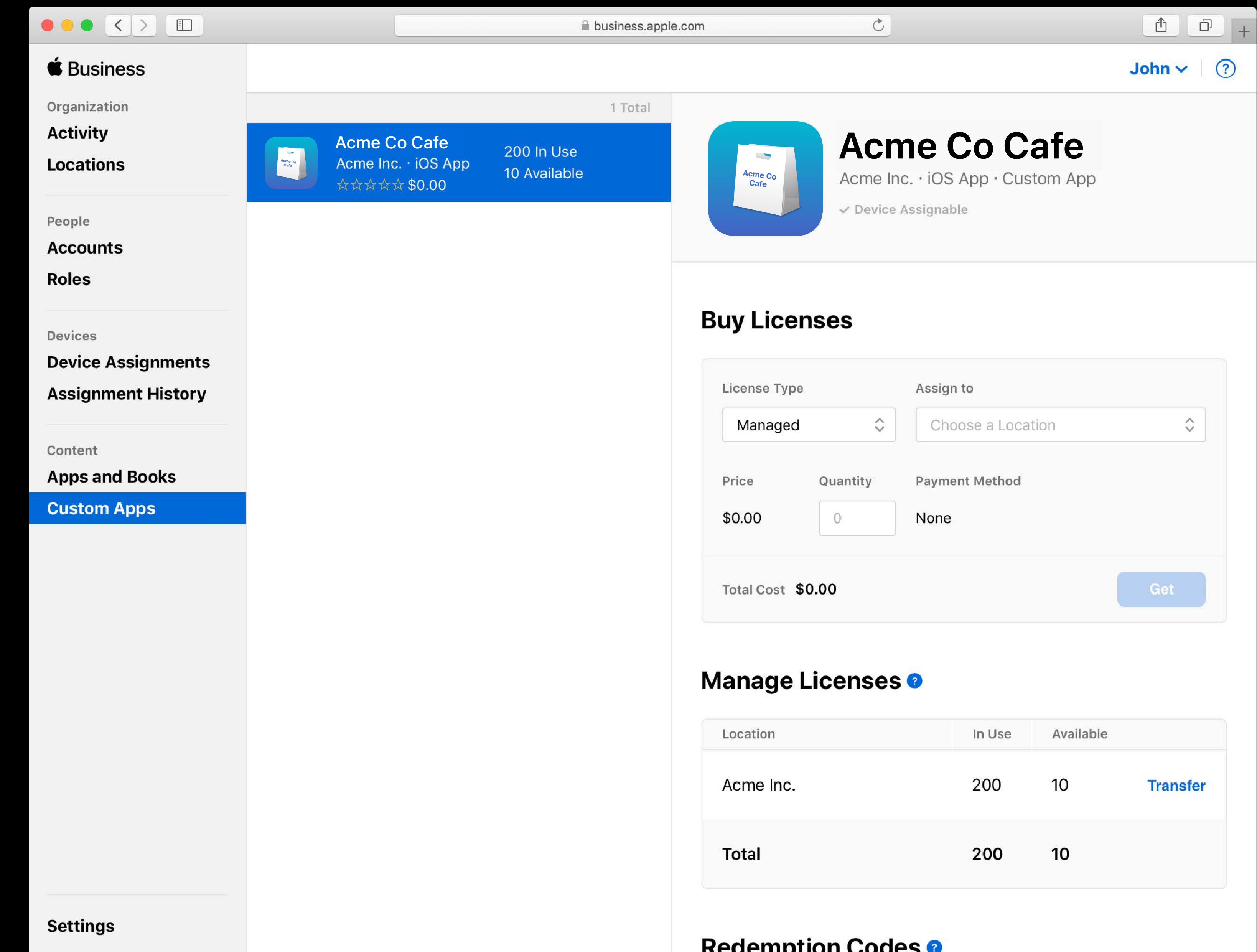
Apple Business Manager

Discover DEP ID and Organization Name
in Settings



App Store Connect

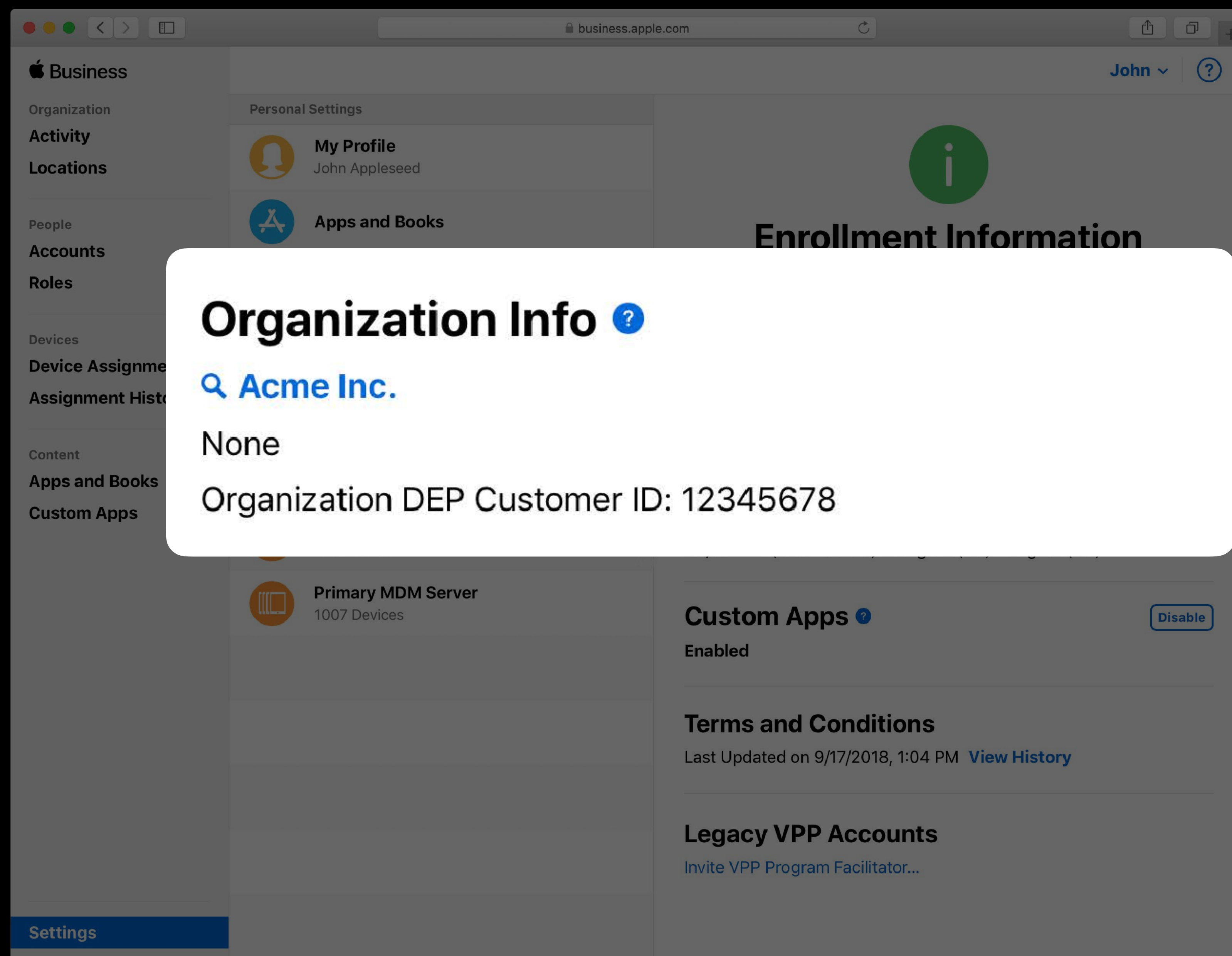
Add DEP ID and Organization Name
to app listing



Apple Business Manager

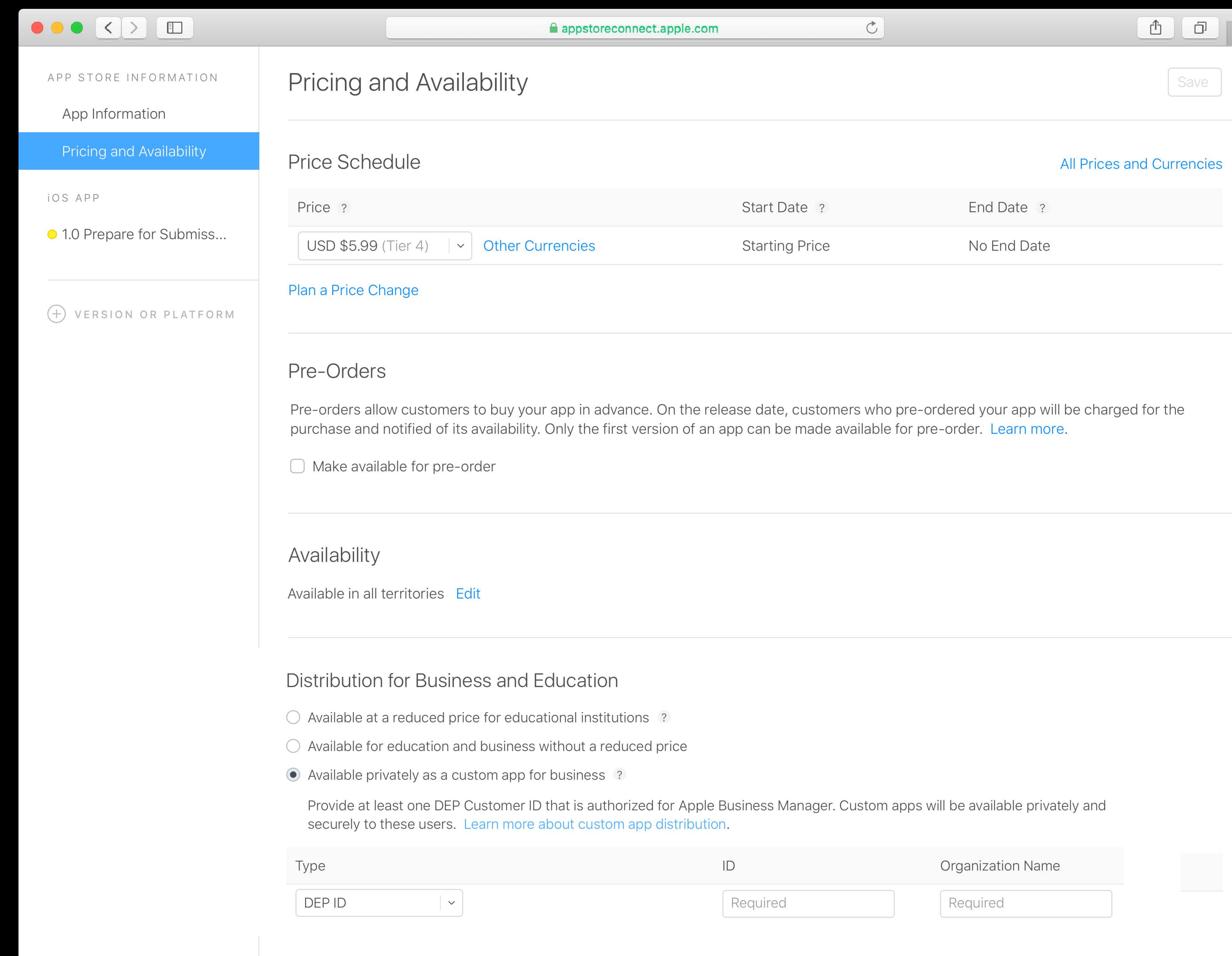
Purchase licenses or codes in "Custom
Apps" section

Custom App Workflow



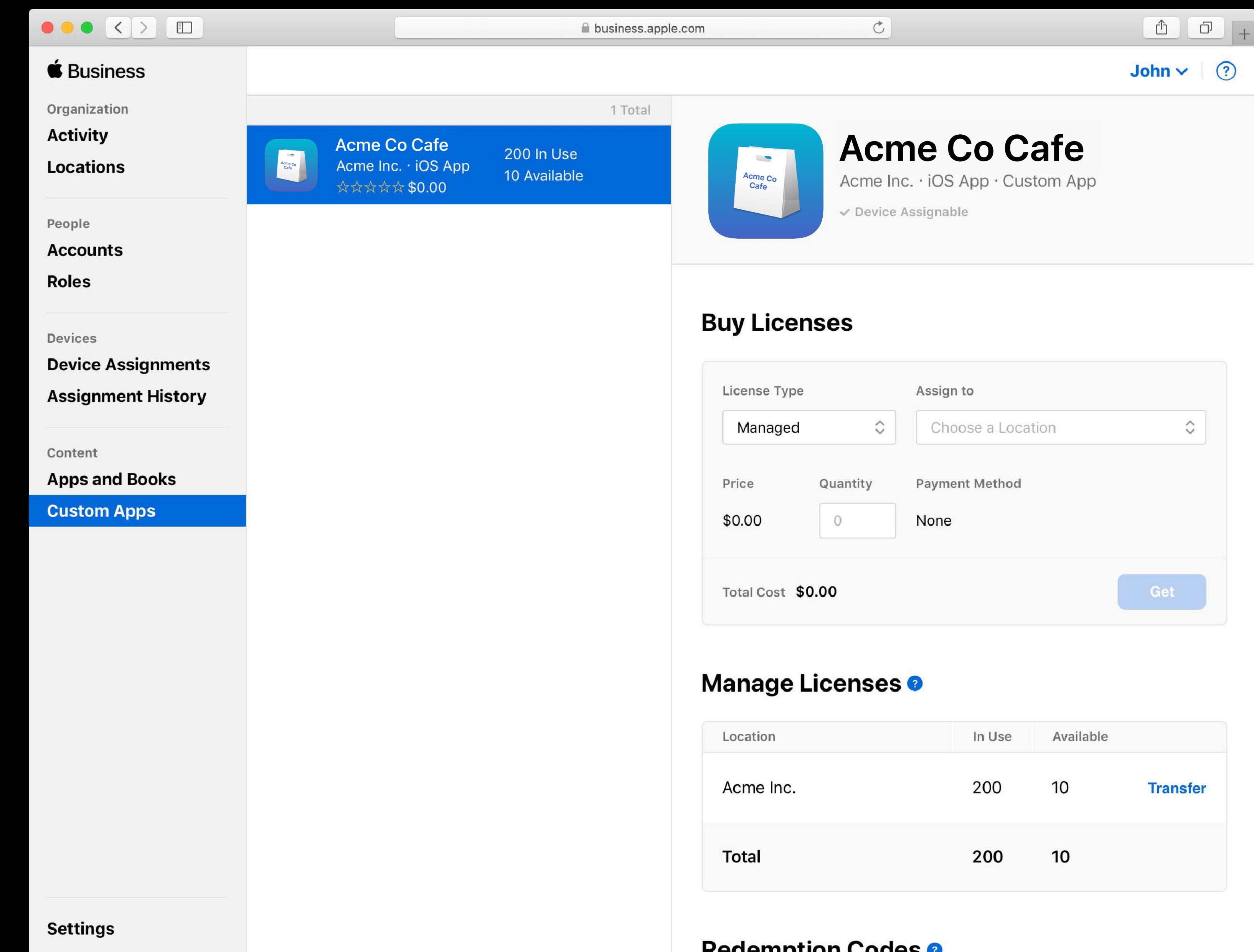
Apple Business Manager

Discover DEP ID and Organization Name in Settings



App Store Connect

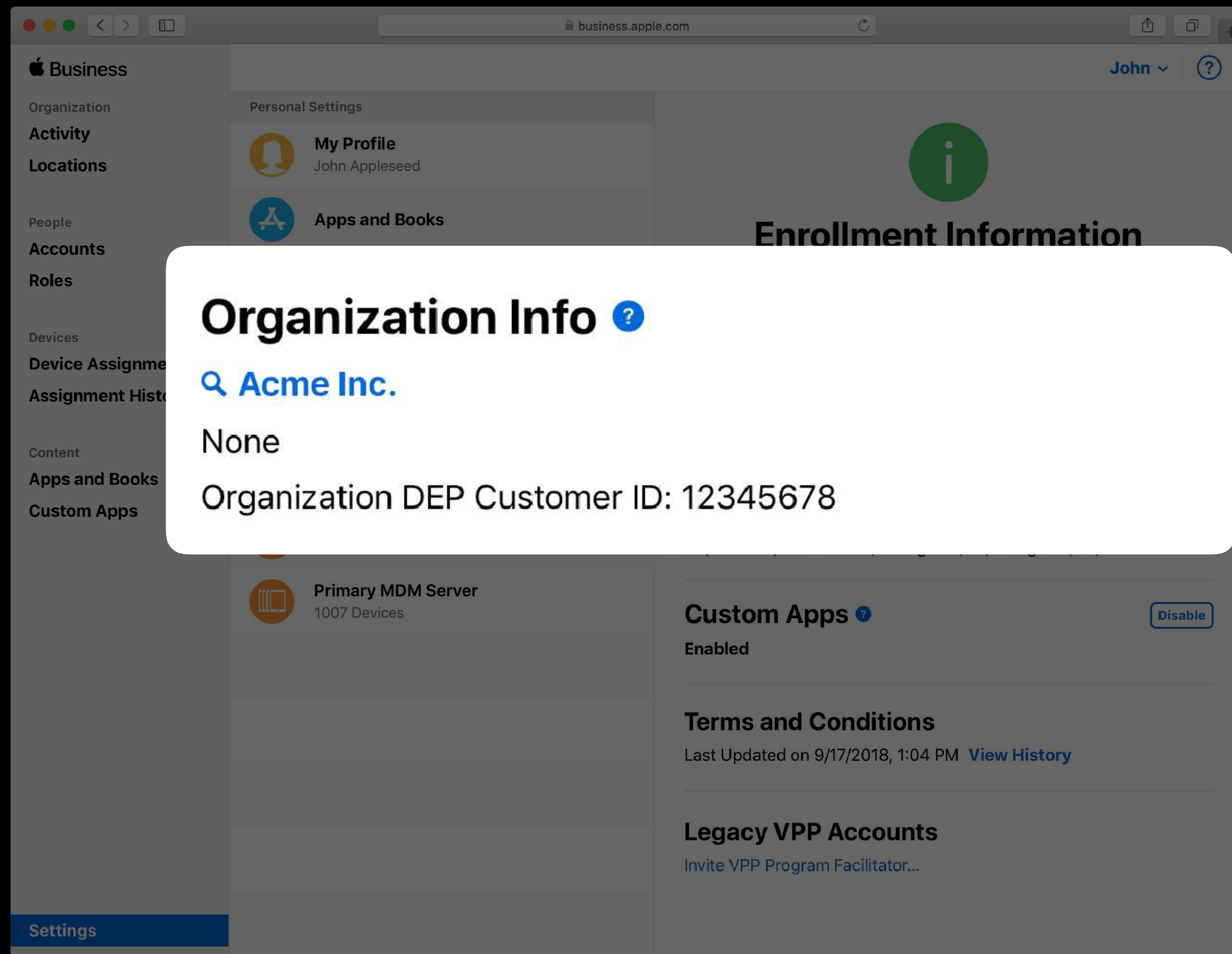
Add DEP ID and Organization Name to app listing



Apple Business Manager

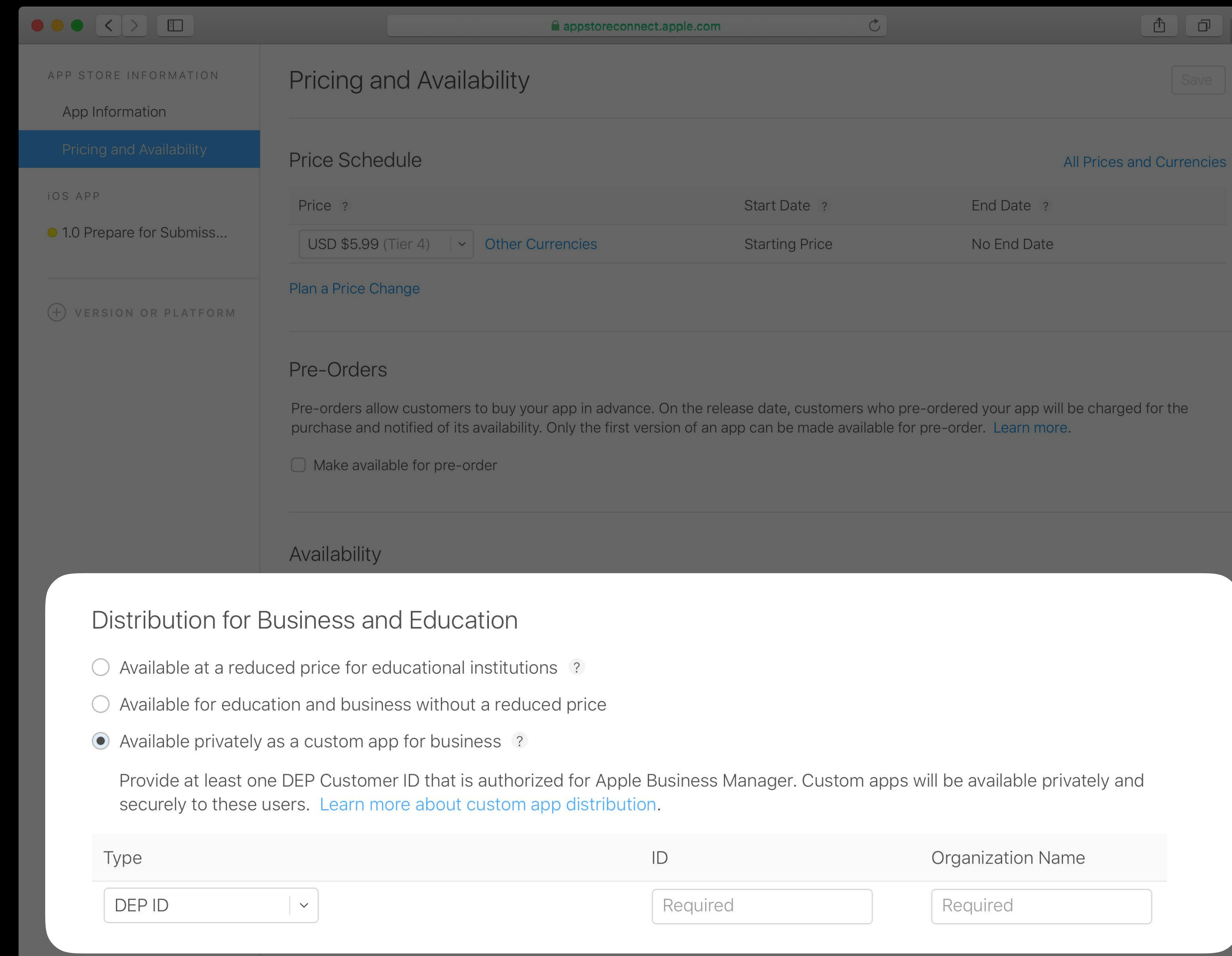
Purchase licenses or codes in "Custom Apps" section

Custom App Workflow



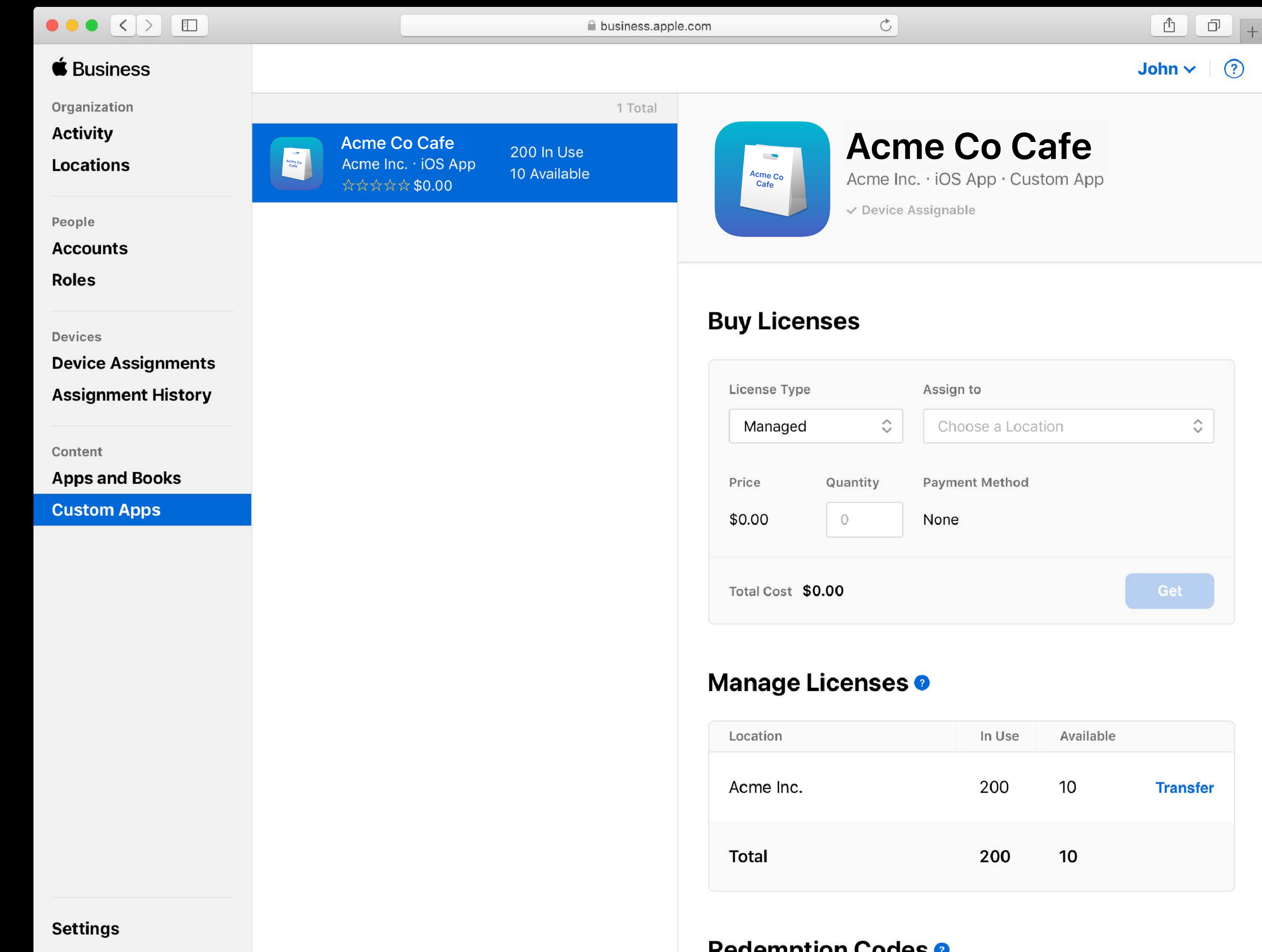
Apple Business Manager

Discover DEP ID and Organization Name in Settings



App Store Connect

Add DEP ID and Organization Name to app listing



Apple Business Manager

Purchase licenses or codes in "Custom Apps" section

Troubleshooting

Custom Apps

Troubleshooting

Custom Apps

Program and Paid Apps agreements



Troubleshooting

Custom Apps

Program and Paid Apps agreements



Banking and tax information



Troubleshooting

Custom Apps

Program and Paid Apps agreements



Banking and tax information



Customer has enabled Custom Apps



Troubleshooting

Custom Apps

Program and Paid Apps agreements



Banking and tax information



Customer has enabled Custom Apps



Wait a few minutes



Troubleshooting

Custom Apps

Program and Paid Apps agreements



Banking and tax information



Customer has enabled Custom Apps



Wait a few minutes



Consult App Store Connect Help



Custom Apps

Expectations

Customer is required to have Apple Business Manager

Apps have to support the countries they will be distributed in

Redemption codes will not be made publicly available

Reviewers need to access the full functionality of the app

Once submitted, apps can not be moved between public and private availability

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods



Ad Hoc



App Store



In-House



Custom Apps

Distribution Methods

Audience



Ad Hoc

Limited Private



App Store

Public



In-House

Private



Custom Apps

Private

Summary

Distribution Scenarios

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?



Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
What if I do not want to give up my intellectual property to an enterprise?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
What if I do not want to give up my intellectual property to an enterprise?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
What if I do not want to give up my intellectual property to an enterprise?			
What if my customer does not have an MDM solution?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
What if I do not want to give up my intellectual property to an enterprise?			
What if my customer does not have an MDM solution?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
What if I do not want to give up my intellectual property to an enterprise?			
What if my customer does not have an MDM solution?			
What if I am being paid as a consultant to build an app for a company?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

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Summary

Distribution Scenarios



App Store



Custom Apps



In-House

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What if Apple Business Manager isn't available for my customer?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

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Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
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What if I am being paid as a consultant to build an app for a company?			
What if Apple Business Manager isn't available for my customer?			
What if the app is employee facing?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
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Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
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What if I am being paid as a consultant to build an app for a company?			
What if Apple Business Manager isn't available for my customer?			
What if the app is employee facing?			
What if I want to distribute an app to my own organization?			

Summary

Distribution Scenarios



App Store



Custom Apps



In-House

What if the app is for the general public?			
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What if Apple Business Manager isn't available for my customer?			
What if the app is employee facing?			
What if I want to distribute an app to my own organization?			

“Apps are like cannonballs, it is better to know where they are going before they deploy.”

-T.A.

More Information

developer.apple.com/wwdc/304

What's New in Managing Apple Devices

Friday, 11:00

App Distribution and Device Management Lab

Friday, 1:00

 WWDC19