

Office of Enabling Technologies

Medical School Information Systems

Implementing In-App Purchasing in SecondLook-EHistology

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What will be covered

- Overview of inApp Purchase
- Building blocks needed
- Content location considerations
- Developing & testing in-app purchasing in an app
- Gotchas & lessons learned


NB. this presentation is only outlining the process to use Apple's inApp Purchase program

What is In-App Purchasing

- Mechanism to embed a store within your mobile application
- Can expand and update an app with new content
- Revenue opportunity
 - Upgrade a free app with premium content

Types of in-App Purchase

- book reader app - users can purchase and download new books
- magazine app - ongoing subscriptions to new content
- game app - purchase new levels



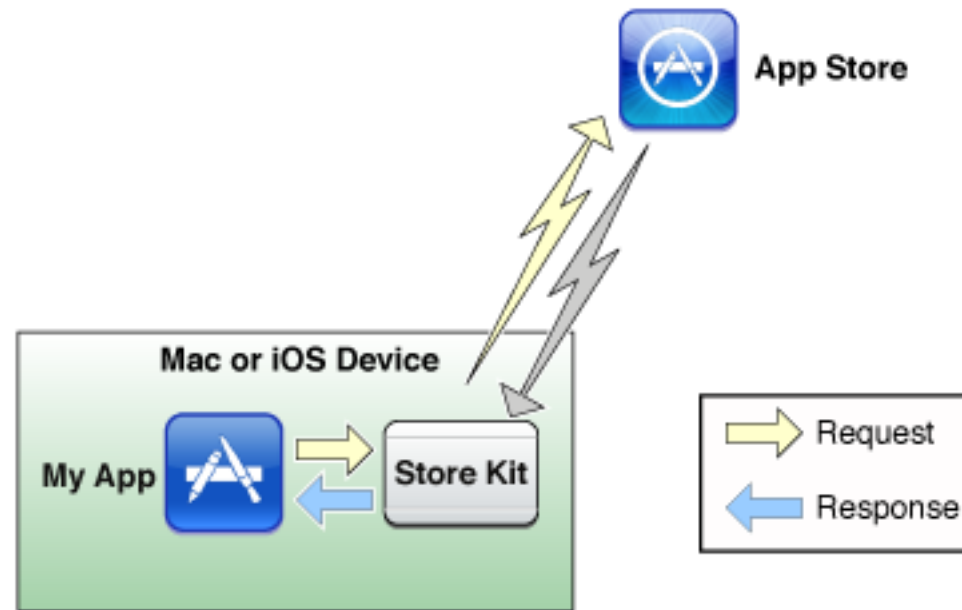
SecondLook-eHistology is free with one slide set included - additional 26 slide decks are \$0.99 or \$24.99 for the complete series of slide sets

IMPORTANT

Apple's in-App Storekit library only
collects payments

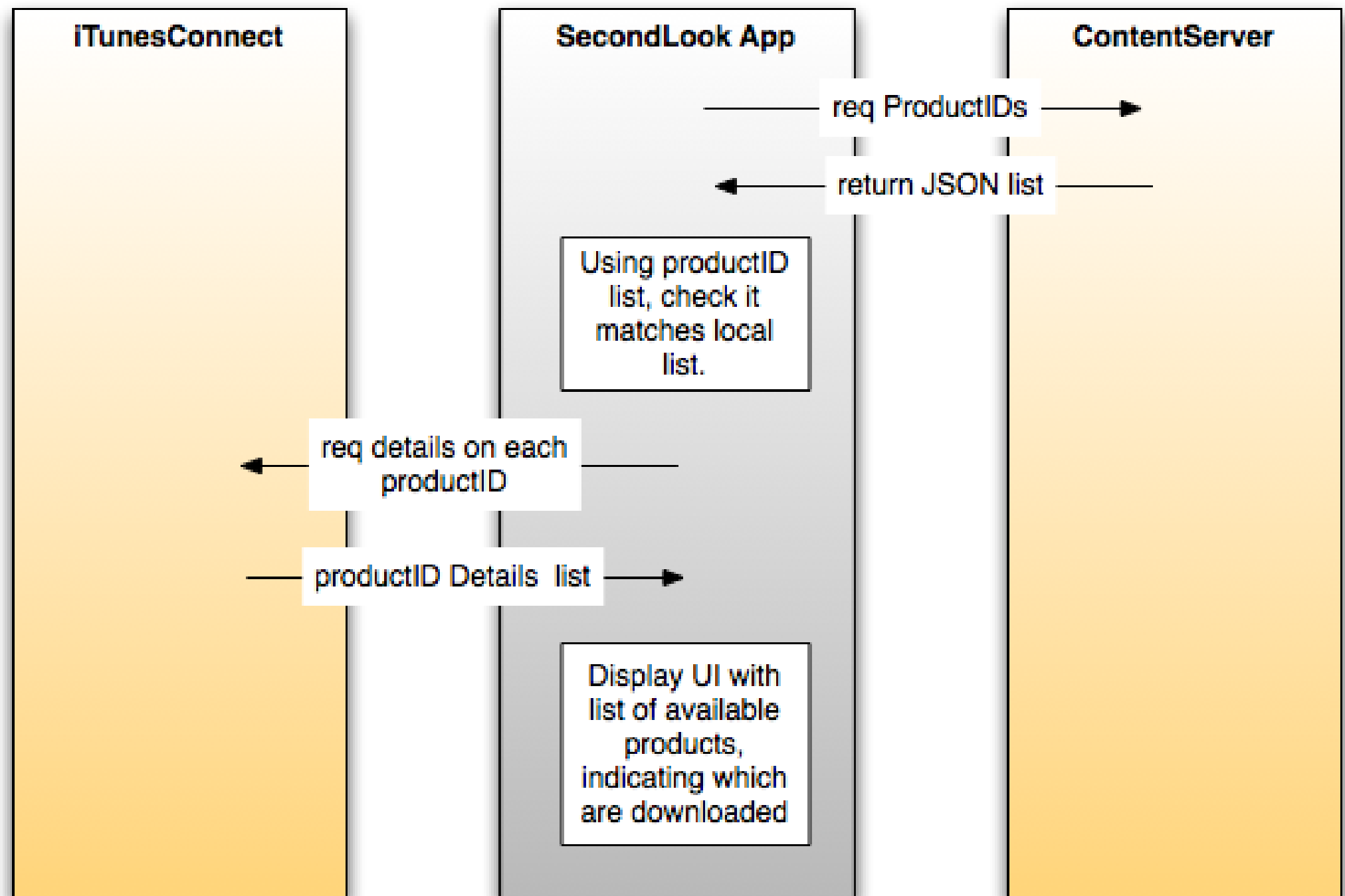
Does not provide any User Interface
elements or provide mechanisms for
downloading content

Overview of Process

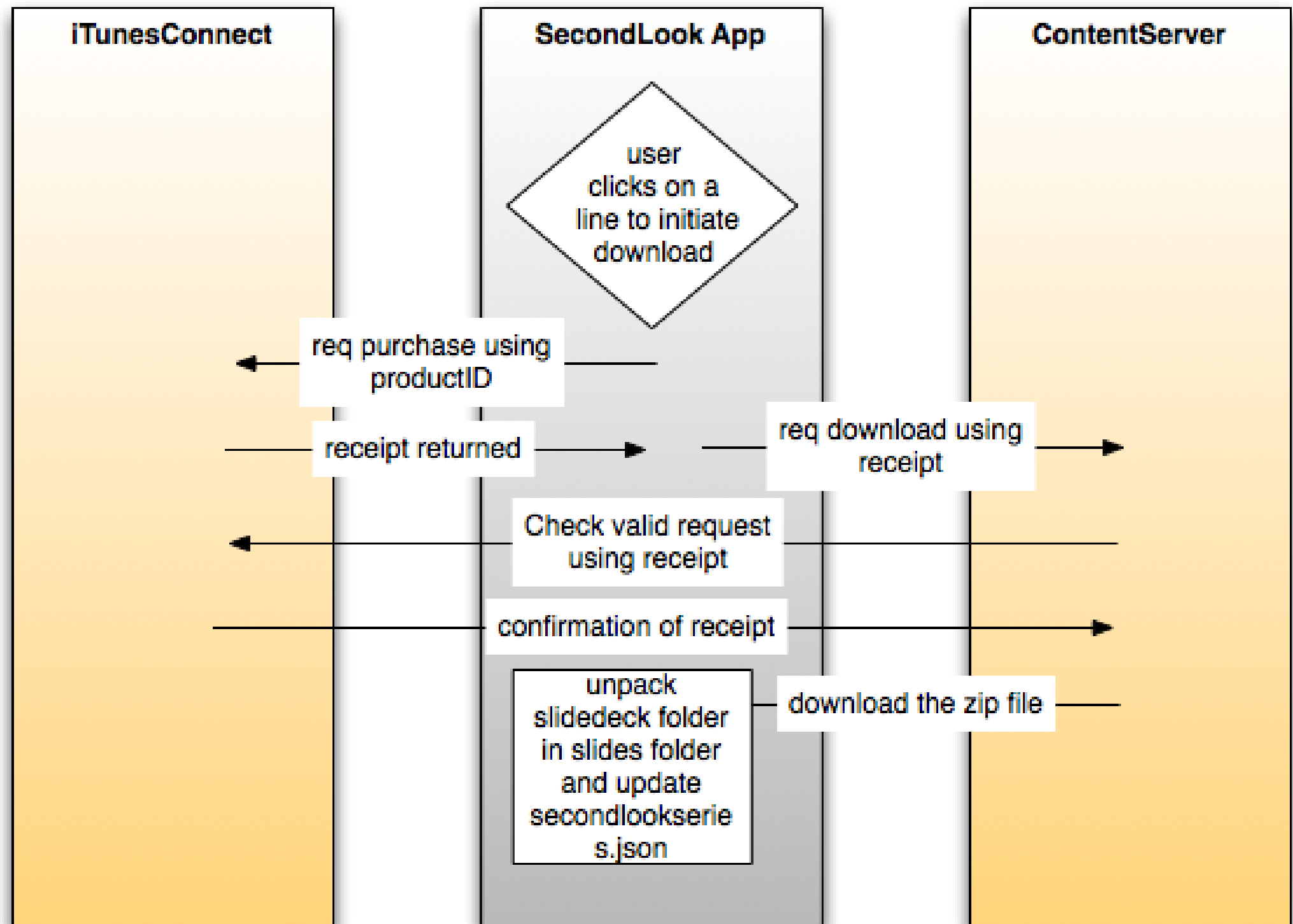


- You must decide on the UI for the purchase
- You must track purchases
- You must provide the mechanism to deliver the purchased content to the app

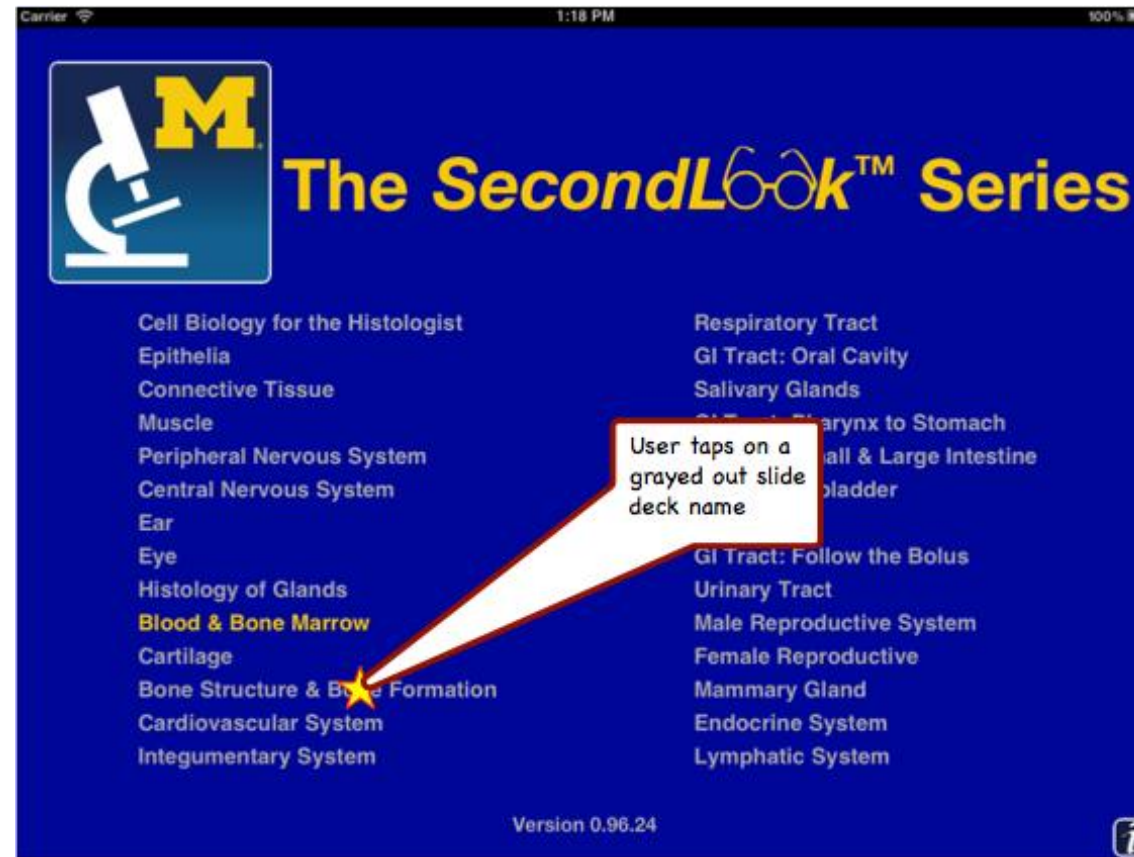
Transaction Flow



Transaction Flow 2



Developing the User Interface





University of Michigan
Medical School

UI #2



UI- 3



Final User Interface



2 sets downloaded

Carrier 9:59 PM 100%



Michigan eHistology - A SecondLook™ Series

Buy Cell Biology for the Histologist	Buy Respiratory Tract
Buy Epithelia	Buy GI Tract: Oral Cavity
Connective Tissue	Buy Salivary Glands
Buy Muscle	Buy GI Tract: Pharynx to Stomach
Buy Peripheral Nervous System	Buy GI Tract: Small & Large Intestine
Buy Central Nervous System	Buy Liver & Gallbladder
Ear	Buy Pancreas
Buy Eye	Buy GI Tract: Follow the Bolus
Buy Histology of Glands	Buy Urinary Tract
Buy Blood & Bone Marrow	Buy Male Reproductive System
Cartilage	Buy Female Reproductive
Buy Bone Structure & Bone Formation	Buy Mammary Gland
Buy Cardiovascular System	Buy Endocrine System
Buy Integumentary System	Buy Lymphatic System

Version 1.0 

Defining your Products

- Identify a products with a unique string called a *product identifier*
- Products can be
 - Consumable
 - non-Consumable
 - Auto-Renew Subscriptions
 - Free Subscriptions
 - Non-renewing Subscriptions
- Use iTunes Connect to add products

Defining your Products

Apple iTunes Connect

laurie@umich.edu ▼

Create New

teststore — In-App Purchases



An In-App Purchase has been returned and is highlighted in the table below.



teststore

Apple ID : 500652690

Bundle ID : edu.umich.med.secondlook

31 In-App Purchases

Search

Reference Name	Product ID	Type	Apple ID	Status
Blood & Bone Marrow	BloodBoneMarrow1	Non-Consumable	564203001	Ready to Submit
Bone Structure & Bone Formation	BoneStructure1	Non-Consumable	564203908	Ready to Submit
BoneBloodMarrow	eeHistology_BloodBoneMarrow1	Non-Consumable	579746323	Ready to Submit
Cardiovascular System	CardiovascularSystem1	Non-Consumable	564204195	Ready to Submit
Cartilage	Cartilage1	Non-Consumable	564204204	Ready to Submit
Central Nervous System	CentralNervousSystem1	Non-Consumable	552492878	Ready to Submit
Complete Series	Series1	Non-Consumable	551985004	Ready to Submit

Create test users

Apple iTunes Connect

laurie@umich.edu ▼

Add New User

Manage Test Users

13 Users

Last Name ▲	First Name	Email Address	iTunes Store	
Coffman	Kevin	kwctest@umich.edu	USA	Delete User
Coffman 2	Kevin	kwctest2@umich.edu	USA	Delete User
Hortsch	Michael	mhtest@umich.edu	USA	Delete User
Hortsch2	Michael	mhtest2@umich.edu	USA	Delete User
Kirchmeier 4	Laurie	LWKtest4@umich.edu	USA	Delete User
kirchmeier 5	laurie	lwctest5@umich.edu	USA	Delete User
Kirchmeier 6	Laurence	lwctest6@umich.edu	USA	Delete User
Malicke	Dave	dmtest1@umich.edu	USA	Delete User
Reviewer	Apple	appletester@umich.edu	USA	Delete User
Reviewer	Apple	appletester2@umich.edu	USA	Delete User
test1	michael	mhtest1@umich.edu	USA	Delete User
TESTUSER	Laurence	lwctest3@umich.edu	USA	Delete User
Topol	Susan	sttest@umich.edu	USA	Delete User

Done

Released SL-eHistology

Apple iTunes Connect

laurie@umich.edu ▼

SL eHistology

App Information [Edit](#)

Identifiers

SKU 5546

Bundle ID edu.umich.SLeHistology

Apple ID 570260018

Type iOS App

Default Language English

Links

[View in App Store](#)

[Customer Reviews](#)

[Rights and Pricing](#)

[Manage In-App Purchases](#)

[Manage Game Center](#)

[Set Up iAd Network](#)

Versions

Current Version



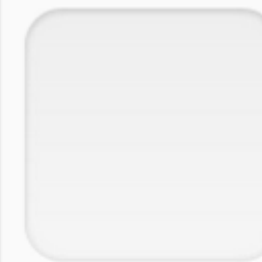
[View Details](#)

Version 1.0

Status ● Ready for Sale

Date Created Oct 12, 2012


Date Released Nov 29, 2012



[Add Version](#)

[Done](#)

SL-eHistology inApp Purchases

SL eHistology — In-App Purchases				
<div>Create New</div> <div>  <div> SL eHistology Apple ID : 570260018 </div> <div>Bundle ID : edu.umich.SLeHistology</div> </div>				
<div>28 In-App Purchases</div> <div>Search</div>				
Reference Name	Product ID	Type	Apple ID	Status
Blood & Bone Marrow	eHistology_BloodBoneMarrow1	Non-Consumable	570589341	Approved
Bone Structure & Bone Formation	eHistology_BoneStructure1	Non-Consumable	570589558	Approved
Cardiovascular System	eHistology...iovascularSystem1	Non-Consumable	570589564	Approved
Cartilage	eHistology_Cartilage1	Non-Consumable	570589507	Approved
Cell Biology for the Histologist	eHistology_CellBiology1	Non-Consumable	570265568	Approved
Central Nervous System	eHistology...ralNervousSystem1	Non-Consumable	570589173	Approved
Ear	eHistology_Ear1	Non-Consumable	570589210	Approved
Endocrine System	eHistology_EndocrineSystem1	Non-Consumable	571150968	Approved
Epithelia	eHistology_Epithelia1	Non-Consumable	570589033	Approved
Eye	eHistology_Eye1	Non-Consumable	570589296	Approved
Female Reproductive System	eHistology...maleReproductive1	Non-Consumable	571150578	Approved
GI Tract: Follow the Bolus	eHistology_GITractBolus1	Non-Consumable	571149810	Developer Removed from Sale
GI Tract: Oral Cavity	eHistology...ITractOralCavity1	Non-Consumable	571110723	Approved

Lessons Learned

- Cannot use team provisioning profile for app submission - MUST have unique provisioning profile for the app.
- User Interface design and implementation is challenging - the goal is for the UI to be instantly understandable and useable AND the underlying functionality must be resilient
- Plan for ANY & ALL types of interruptions
- Product identifiers cannot be reused!

Content Delivery

- Used zipped folders of for new content
- Deployed production content delivery server
- NB - mark downloaded folder as “NotFor Backup” Apple will reject this if you dont!
- Product identifiers cannot be reused!

references

- Apple Storekit Developer Guide
- Titanium Storekit Module
- Web sites:
 - <http://nixsolutions.com/blog/development/iphone/in-app-purchase-tutorial/>
 - <http://www.raywenderlich.com/2797/introduction-to-in-app-purchases>
 - https://developer.apple.com/library/ios/#technotes/tn2259/_index.html
 - <http://stackoverflow.com/questions/5927258/in-app-purchase-receipt-verification-within-app>
 - <http://gamesfromwithin.com/in-app-purchases-part-4>