

**FEITIAN**

## iR301-U Smart Card Reader

### FAQ



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## 1. F.A.Q

### Q. Why need use mobile smart card reader?

As the mobile market is growing market, so many solutions will move to mobile platform from PC.

The smart card reader can use mobile solution like below area:

E-Government

E-Banking

E-Shopping

E-Commerce

E-Payment

Online Gaming

Network Access Control

Digital Signature, Identification

### Q. How about the develop steps?

Join to apple developer center

Develop your application use FEITIAN SDK

Publish your application to AppStore

### Q. How to develop application use FEITIAN SDK?

Please follow section 6.

### Q. How to publish (submit) your application (with external device) Apple Store?

Once you completed your application, you need to provide the below App information to FEITIAN:

1. Name of app as it will appear in App Store:
2. App version:
3. Planned release data?
4. App Store category:
5. Bundle identifier:
6. protocol names:
7. functional overview:
8. name of the developer that will submit the app to the app store: Name:

FEITIAN will forward to MFi people to approval and feedback to customer then will send PPID(product plan ID) to customer.

Customer can through below picture to add PPID to Review Notes. Submit your application to AppStore.



### **How to debug the application with iOS device and external device?**

Please follow section 7.

### **How to display application customer application on AppStore once the reader has been inserting to iOS device?**

The protocol string is use for matching the external device, when you insert the external device, the iOS system will to automatically find the matching protocol string application and download it.

If customer only wants to display themselves application, then need provide below information to FEITIAN:

1. Accessory name :
2. Manufacturer name:
3. Model Number:
4. Protocol string:

### **What kind of APIs provided by FEITIAN?**

iR301-U smart card reader don't need install any driver on PC and mobile platforms.

We according with CCID standard to design. More information, please follow below:

<http://pcsclite.alioth.debian.org/ccid.html>

And for PC customer, they can through PC/SC interface to operation.

For API information, please follow below:

[http://pcsclite.alioth.debian.org/api/group\\_API.html](http://pcsclite.alioth.debian.org/api/group_API.html)

### **How to apply certificate from developer center?**

Please follow section 4.

## 2. First experience

The DK is available on the below website:

[http://ftsafe.com/product/shop\\_for\\_iR301](http://ftsafe.com/product/shop_for_iR301)

If you got DK, you will received two cards, one for payment demo, and other one use for PKI demo(For now, we haven't finish pki application, so you just can show simple data exchange information).

Please download the below application from Apple Store:

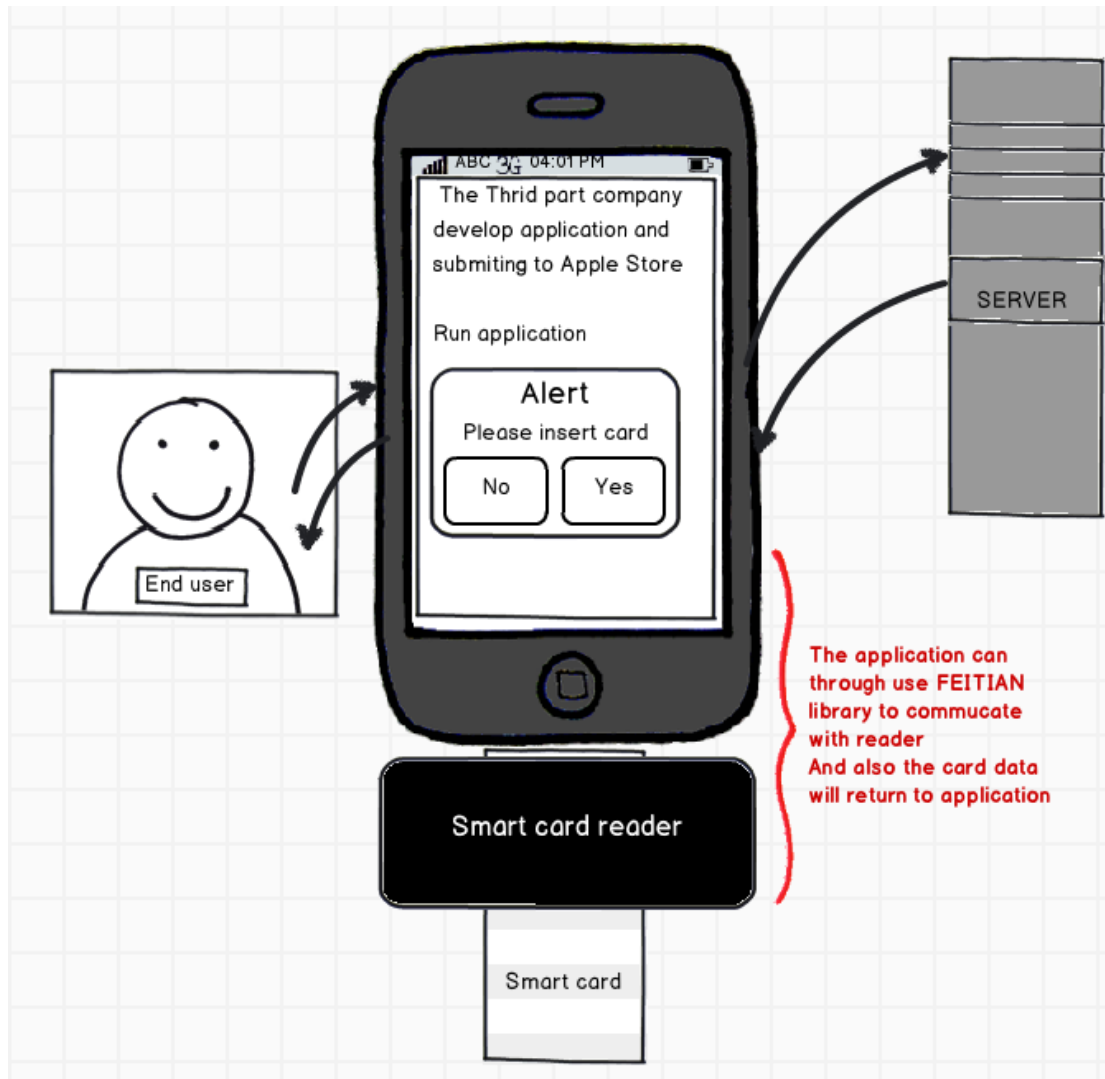
**iR301-U – for PKI card (We provide source code for customer)**

<http://itunes.apple.com/tw/app/irockey301/id525954151?mt=8>

(Through this demo, you will saw the main function about smart card reader(Connect/Transmit/disconnect/Get serial number).

Through text field, you can send APDU(Application Protocol Data Unit) to smart card to test.

### 3. Mainly overview



The iR301-U use read/write the smart card on mobile platform and pc platform, it's depend on the third party company to second develop them application use FEITIAN SDK.

For example, the third party company use FEITIAN SDK developed application for permits client to access the credentials stored on the smart card to perform functions such as digitally signing and decrypting emails, and authenticating to secure websites and network servers.

Or the third party company developed application for mobile payment; the end user can through the application to communicate with banking card to pay.-

iR301-U delivers high lever security such as internet banking systems and electronic identification

allowing for a seamless implementation of smart-card based applications in iOS environment. Their suits customer where security concerns are the most salient and satisfies the demand for a flexible solution for ID authentication, e-commerce, e-payment, information security and access control.

## 4. How to get the developer certificate from Apple

Download Xcode from Appstore:

For install Xcode environment, you need download software from AppStore,

The download link is below :(remember the different system has different version of Xcode)

<https://itunes.apple.com/ca/app/xcode/id497799835?mt=12>

the second step is to apply MFi certificate from Apple developer center.

The main steps is below:

Notes:If you wanna develop iOS application, you must be get the Apple ID and developer certificate, once join the developer center, you can get these(Pay \$99/year).

If you got the developer certificate, please ignore this section.

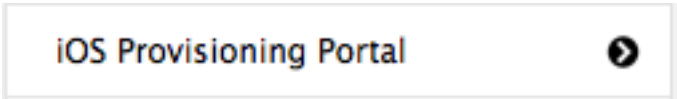
When you get the Apple ID, open safari and login the below website :

<https://developer.apple.com/devcenter/ios/index.action>

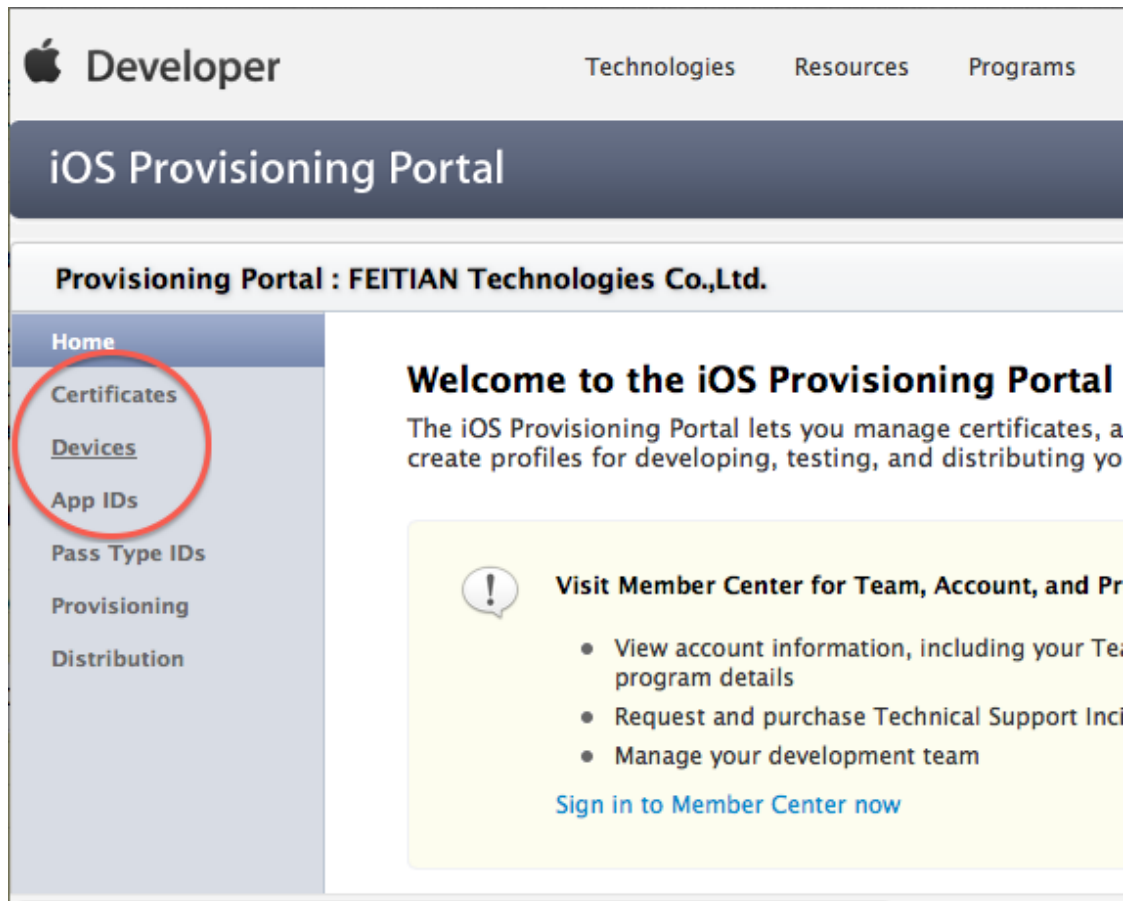
You will be found "iOS Provisioning Portal" section, and also if you are administrator you also can saw "iTunes Connect".

- a. The "iOS Provisioning Portal" use for manager developer certificate and create distribution version for test user. More information, please follow the Apple website.
- b. The "iTunes Connect" use for submits Application to Apple Store. Later we will talk about it.

Let create developer certificate for Xcode.

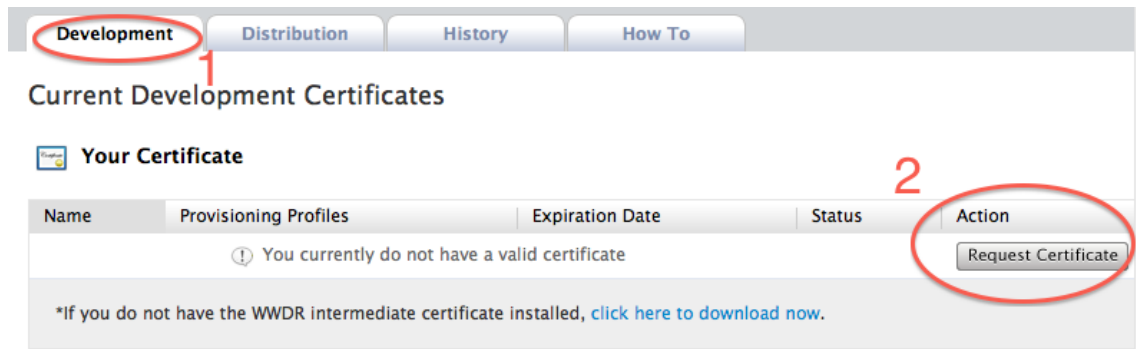
1. Enter  , and create developer

certificate, the below is we need use main functions:



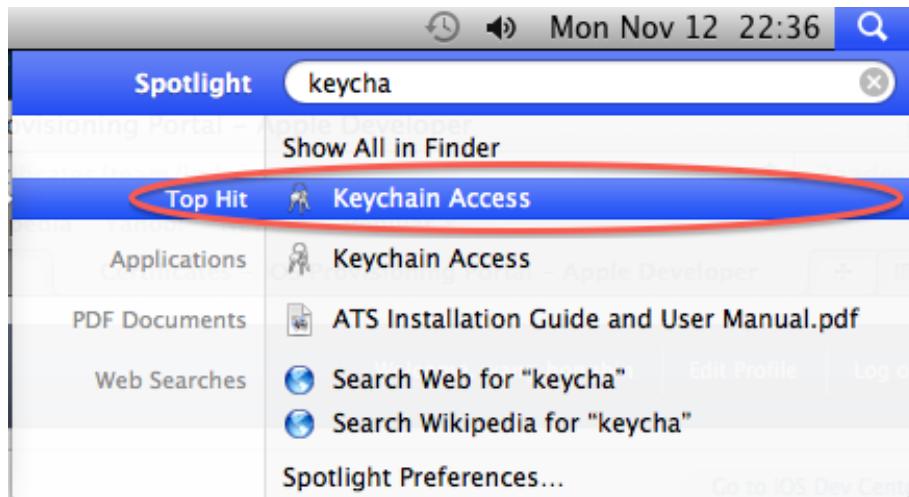
Chose "Certificate"

section



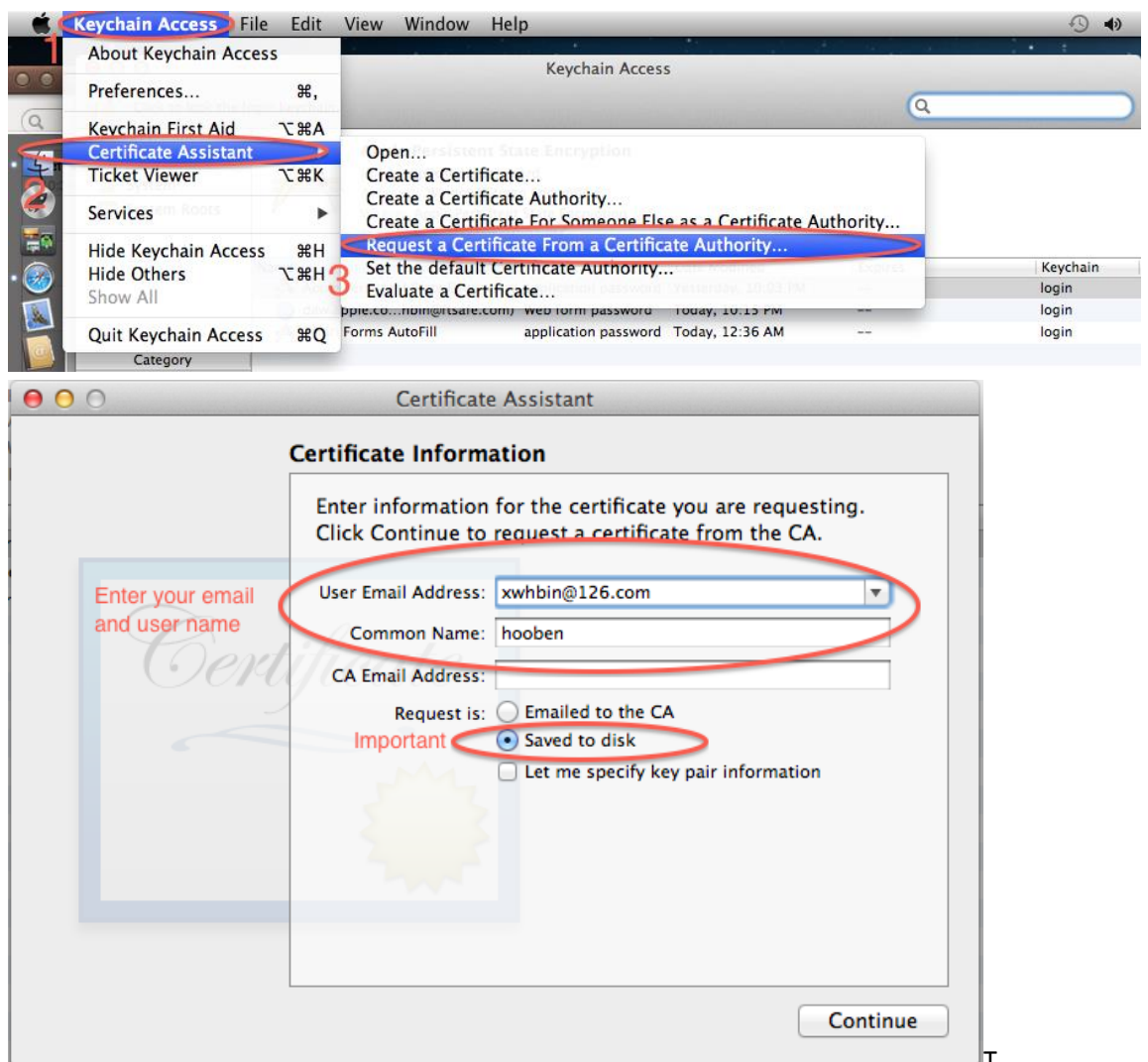
As you see, the developer center need certificate from our PC, so we need apply certificate from Apple certificate server. We need use the "Keychain Access" software.





2. Open the software, operation like

below:



then will be applying certificate from certificate authority. Ok, let's go back the last step, click the "Require certificate" button, chose the certificate which we saved

before.

**Current Development Certificates**

**Your Certificate**

If the status is pending, you need contact administrator to approval and reload the current page

Name	Provisioning Profiles	Expiration Date	Status	Action
wang hongbin			Pending Issuance	

\*If you do not have the WWDR intermediate certificate installed, [click here to download now](#).

Notes: if you are administrator, once submitted your certificate, you need reload the current page and the status will become "Issued", if you are not normal user, please contact your administrator to approval.

- To download the certificate from developer center and install it.

**Current Development Certificates**

**Your Certificate**

Name	Provisioning Profiles	Expiration Date	Status	Action
wang hongbin		Nov 12, 2013	Issued	<a href="#">Download</a> <a href="#">Revoke</a>

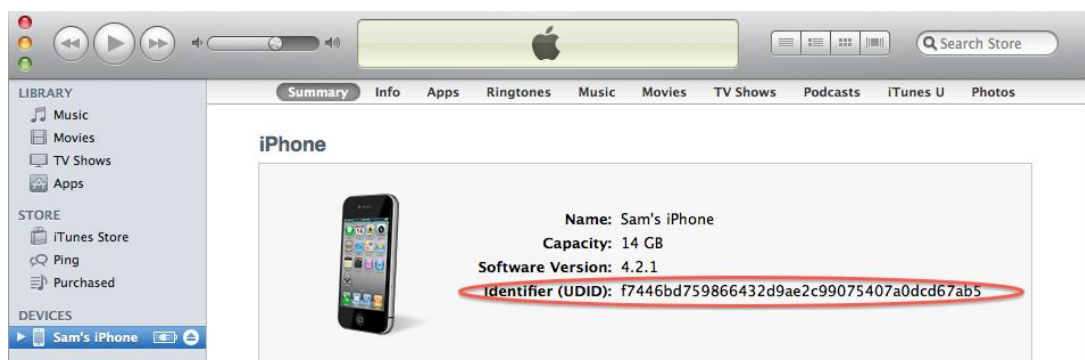
\*If you do not have the WWDR intermediate certificate installed, [click here to download now](#).

Once install completed, then will found the private key and your certificate in the "Keychain Access"/"My certificate" .

Name	Kind	Expires	Keychain
Apple Worldwide Developer Relations Certification Authority	certificate	Feb 14, 2016 10:56:35 AM	login
iPhone Developer: wang hongbin (RL2Q66TT43)	certificate	Nov 12, 2013 11:07:20 PM	login
hooben	private key	--	login

The next step we need create App ID for application, it's use for AppStore.

We also need add our real device to developer center, click "Device" button, "Add device" button to input your device name and UDID, the UDID you will be found in the iTunes, like below:



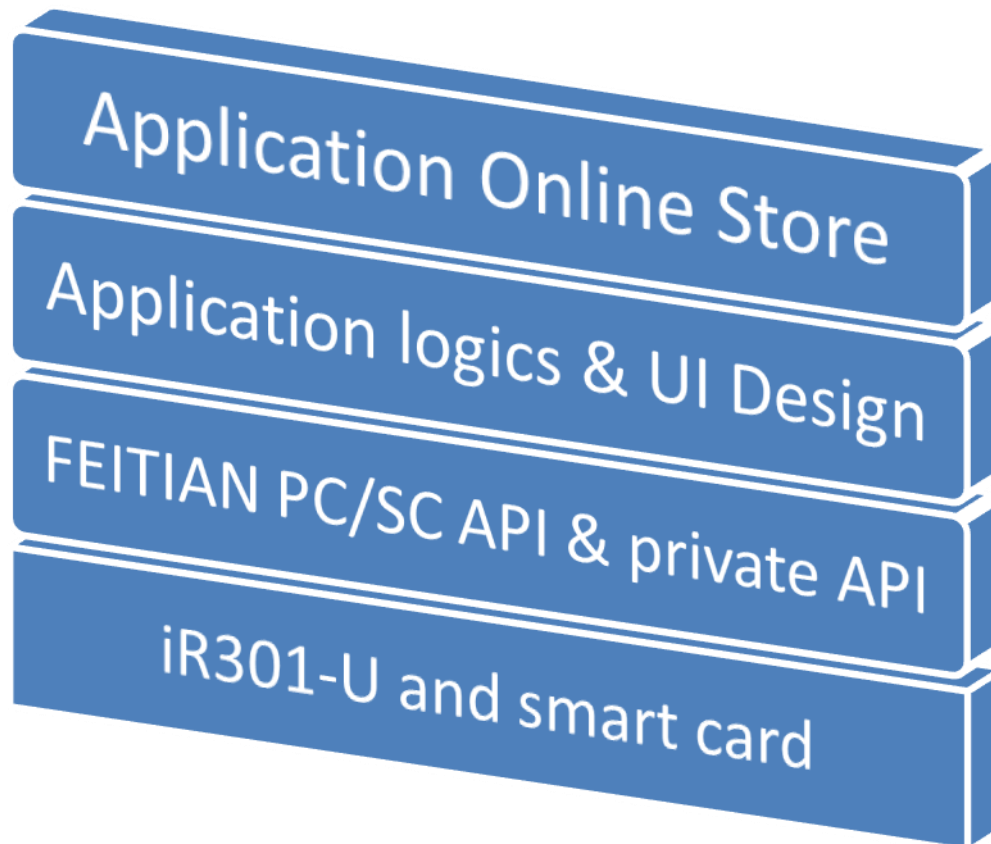
Ok, the next step, let's to apply developer certificate for Xcode, click the "Provisioning" section, Chose "New Profile", fill in below information:

And also select your real device in the "Devices" section, click the "Submit" button to submit your profile to developer center. To download profile and install it:

Double click your "\*\*\*.mobileprovision" profile, then will install the Xcode, like below:

Ok, everything will be done. Let's start to develop application for iOS. :)

## 5. Application overview of static library



For iOS platform, the apple provided xCode compiler and all UI & framework for user, for more information, please follow the below website:

<https://developer.apple.com/xcode/>

## 6. How to developer the application use FEITIAN library

Needs resource:

Mac Pro(OS version 10.6.8+, xCode application)

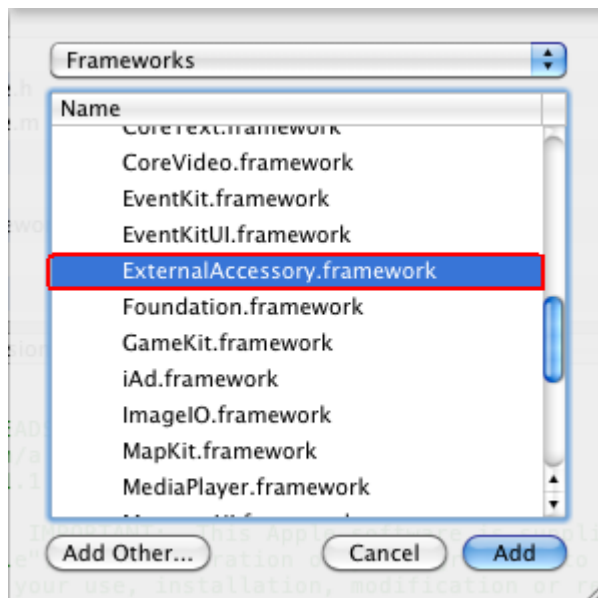
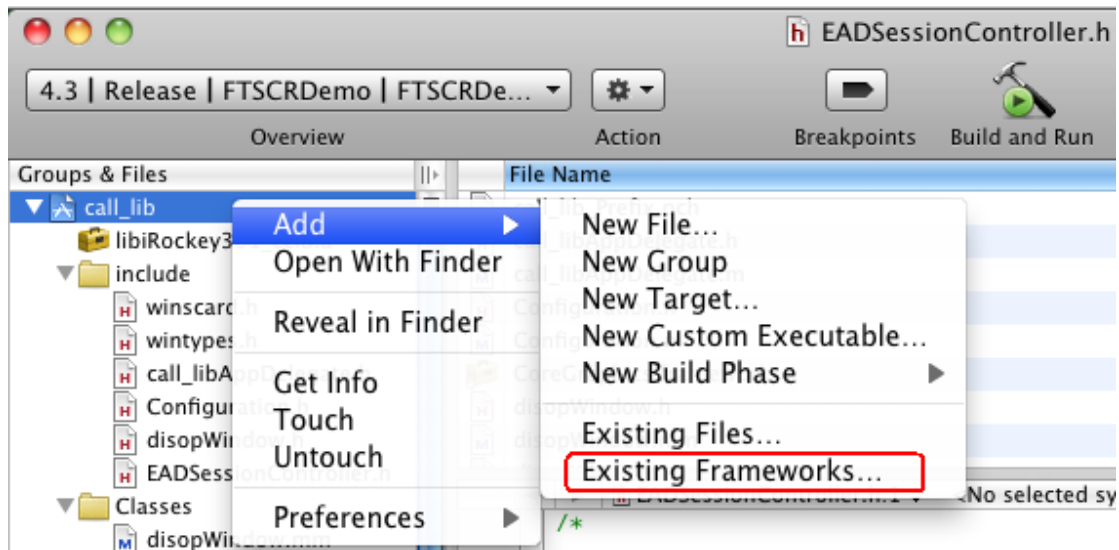
iOS device(iPod/Phone/Pad)

iHelper(FEITIAN will provide customer one debug device)

FEITIAN smart card reader

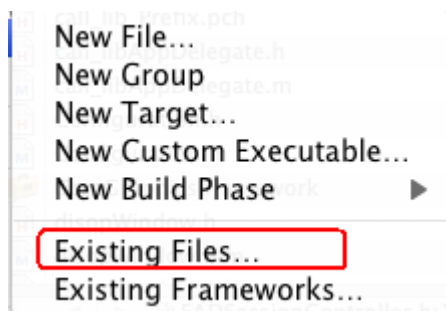
Notes: when you create a project, wants integrate FEITIAN library, you need adding FEITIAN library and external accessory framework.

1. The first, FEITIAN library used “External Accessory framework” from Apple, so if client wants develop application with external device, they need added External Accessory framework, please follow below:



The External Accessory Framework included some API use for communicate with external device.

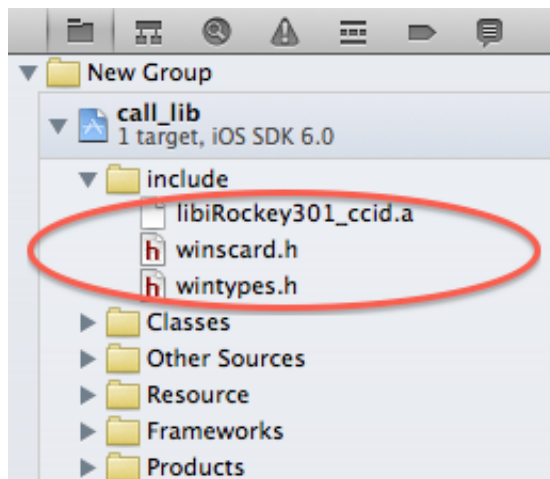
Same way, To adding FEITIAN library, the operation is below:



(Use Xcode version 3.2.6, the different xcode have a different path, please follow the xcode user manual)

Chose the libiRockey301\_ccid.lib, and also include the header file(winscard.h, windef.h), like

below:



- To edit the Info.plist file or you also can follow the below picture to add external protocol string, this string use for MFi products, the FEITIAN library will through this string to matching the device(iR301-U).

The UISupportedExternalAccessoryProtocols key is in your app's Info.plist must contain one or more protocol names that match protocol names declared by the device.

Info.plist > No Selection		
Key	Type	Value
▼ Information Property List	Dictionary	(17 items)
	String	
Bundle identifier	String	com.ftsafe.\${PRODUCT_NAME:rfc1034idei
InfoDictionary version	String	6.0
Bundle name	String	iR301-U
Bundle version	String	1.0
Application Category	String	
Executable file	String	\${EXECUTABLE_NAME}
Application requires iPhone environment	Boolean	YES
▼ Supported external accessory protocols	Array	(2 items)
Item 0	String	com.ftsafe.CRD
Item 1	String	com.ftsafe.iR301
► Supported interface orientations	Array	(3 items)
Bundle display name	String	iR301
Bundle OS Type code	String	APPL
Icon file	String	ICON.png
Bundle creator OS Type code	String	???
Main nib file base name	String	MainWindow
Localization native development region	String	English
Bundle versions string, short	String	

The FEITIAN library will identify correct protocol names when enumerating connected devices using the External Accessory Framework.

- everything is ok, the next step the clients just follow them mind to enter your code and handle the application's logic and UI design, For API information, please read the developer manual(we also provide sample code for all API functions, for clients to reference).

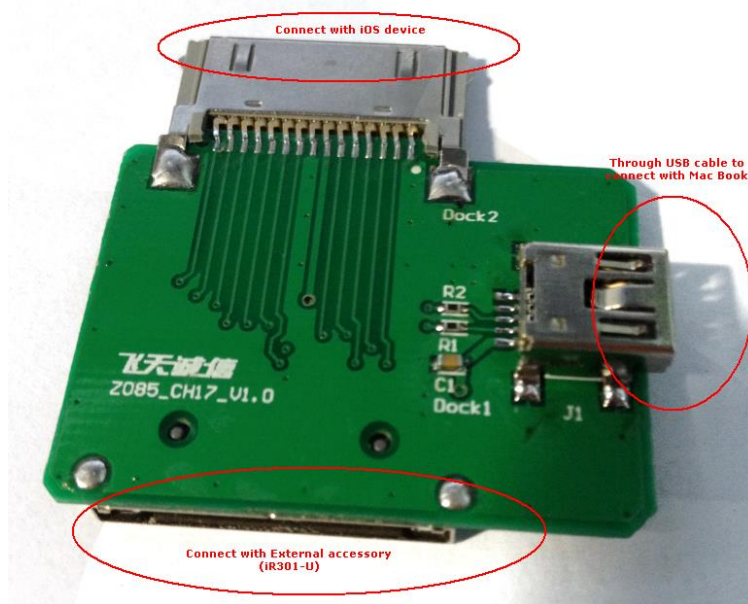


## 7. How to debug the application with external device

As you know, the iOS device only have one female-dock port, so if you made application need to build to iOS device, and plug out to insert the iR301-U, if something wrong, you also need plug out your device try to connect Mac book to build again, that's very complicated.

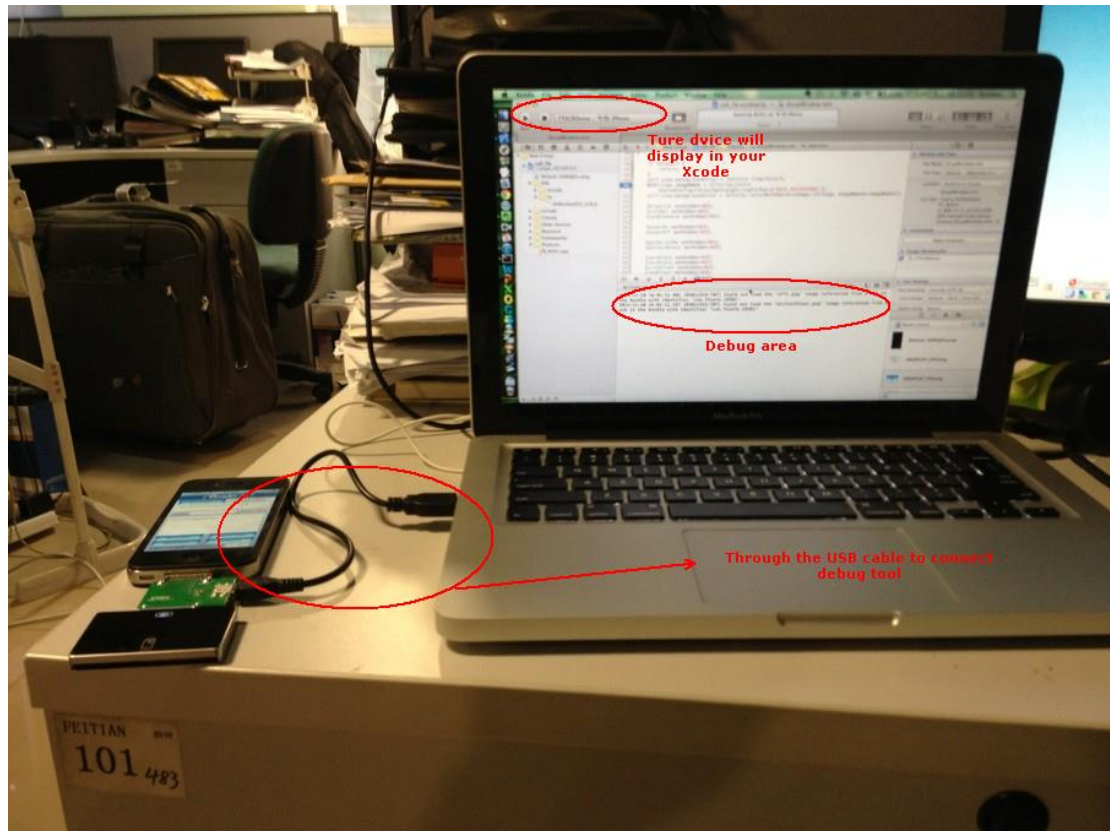
FEITIAN provided customer one debug device, use the tripartite debugging. That's mean when you connect PC also can connect with iR301-U at the same time (building and testing).

The below is debug device's picture:



This device very use for developer, the developer can step by step to deeply in the code. The below picture will show you powerful function.





## 8. Does the iR301-U support Windows7/8?

Yes, the iR301-U is a CCID compatible device, once you insert reader to PC, the driver will be downloading and install in your computer.

## 9. Does iR301 can support SAMSUNG tablet and Phone?

Yes, the android system must be higher than 4.2+.

## 10. What kind of resources is available to developer?

FEITIAN provided SDK (software develop kit) for customer and sample code with source code(C/C++/Java language). And we provide best technical support for customer.

## 11. How to get the card slot status?

Two ways can know the status of card slot.

1. Call our delegate -> ReaderInterfaceDelegate which have protocol named cardInterfaceDidDeattach: (bool) attached
2. Call SCardStatus, we don't suggestion using SCardGetStatusChanges, even it also can support.

For call SCardStatus, you need to do below compare.

SCARD\_ABSENT means no smartcard

SCARD\_PRESENT || SCARD\_SWALLOWED || SCARD\_POWERED means card inserted

## 12. How to debug lightning connector readers?

We suggestion you can bought bR301 reader (Bluetooth reader), through Bluetooth connect with our reader and to do debug.

The reason is our latest SDK can support FEITIAN all readers. Bluetooth debug will be easier.

After done, you can integrated with iR301 directly.

## 13. Is possible to develop one application support all FEITIAN readers

Yes, after June 2014, the SDK can support Bluetooth reader and all FEITIAN iDock reader on iOS platform, you can contact [world.support@ftsafe.com](mailto:world.support@ftsafe.com) to get latest SDK.