FEITIAN

iR301-U Smart Card Reader

FAQ

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1. F.A.Q 3
Q. Why need use mobile smart card reader? 3
Q. How about the develop steps? 3
Q. How to develop application use FEITIAN SDK? 3
Q. How to publish (submit) your application (with external device) Apple Store? 3
How to debug the application with iOS device and external device? 4
How to display application customer application on AppStore once the reader has been inserting to iOS device? 4
What kind of APIs provided by FEITIAN? 5
How to apply certificate from developer center? 5
2. First experience 5
3. Mainly overview 6
4. How to get the developer certificate from Apple 8
5. Application overview of static library 14
6. How to developer the application use FEITIAN library 14
7. How to debug the application with external device? 17
8. Does the iR301-U support Windows7/8? 17
9. Does iR301 can support Andriod device? 17
10. What kind of resources is available to developer? 17
11. How to get the card slot status? 17
12. How to debug lightning connector readers? 18
13. Is possible to develop one application support all FEITIAN readers 18

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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?

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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:

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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

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

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.

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3. Mainly overview

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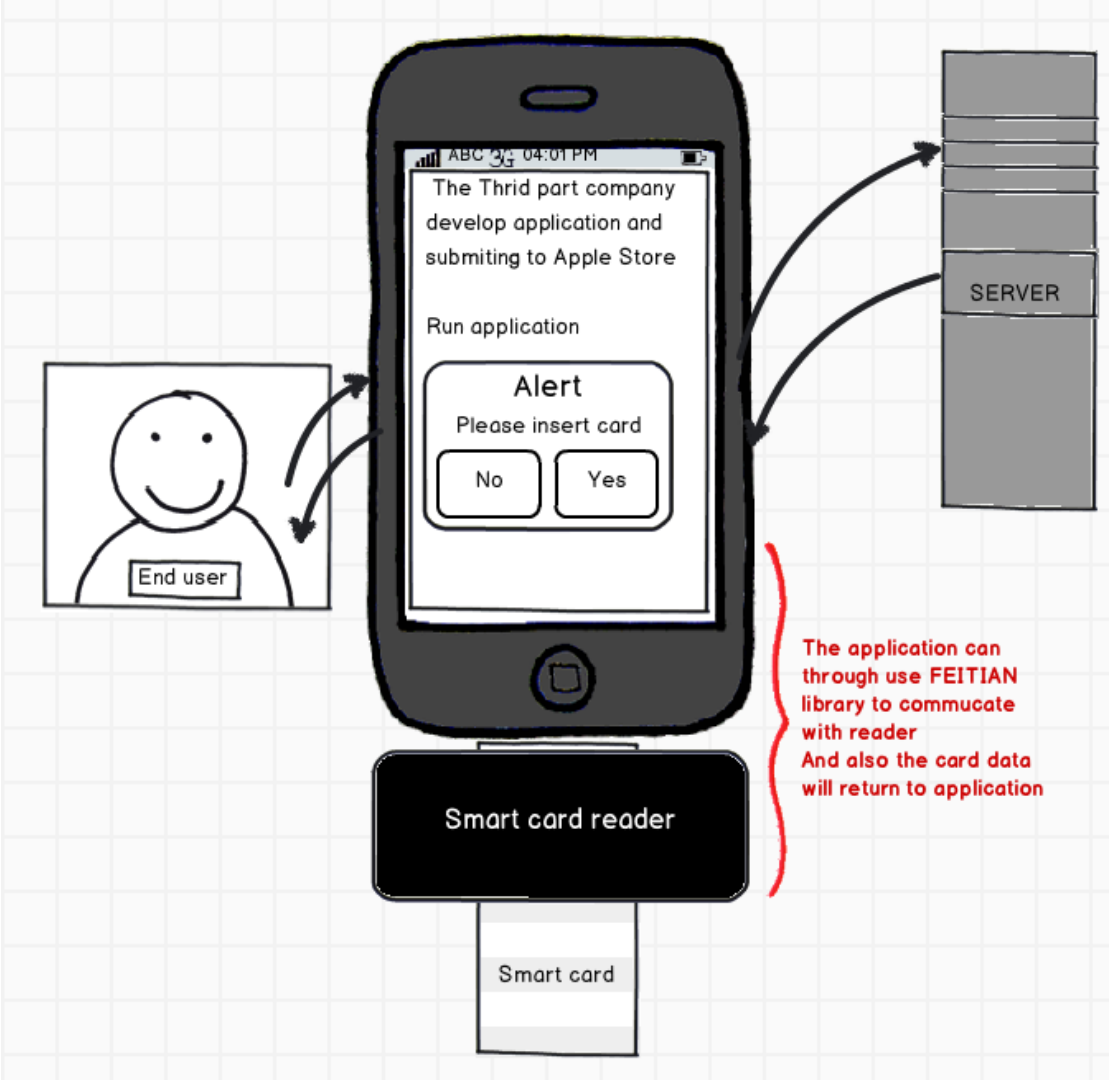

The iR301-U use read/write the smart card on mobile platform and pc platform, it's depend on the third party company to second develop them application use FEITIAN SDK.

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

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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 :

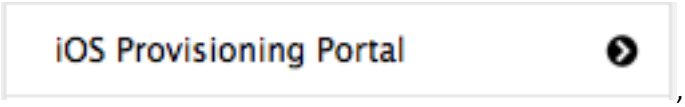
https://developer.apple.com/devcenter/ios/index.action

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:

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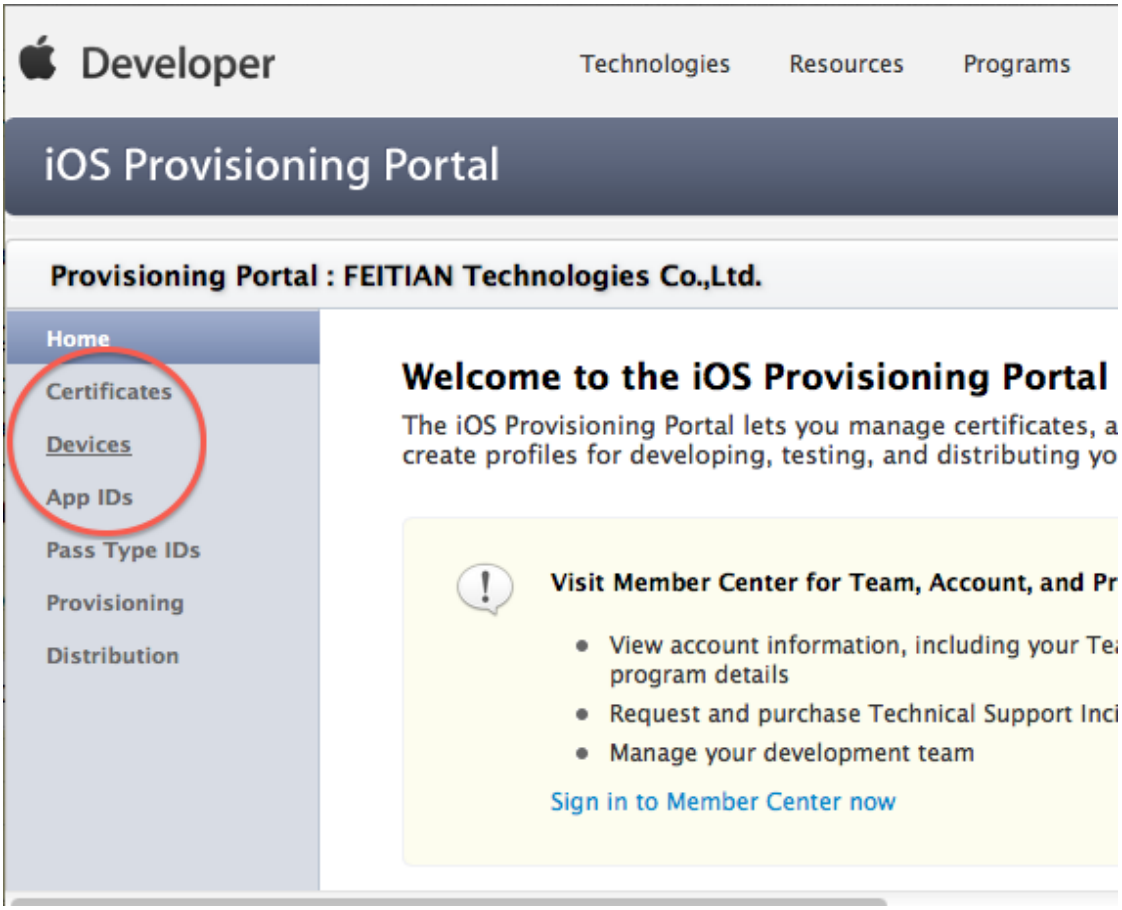
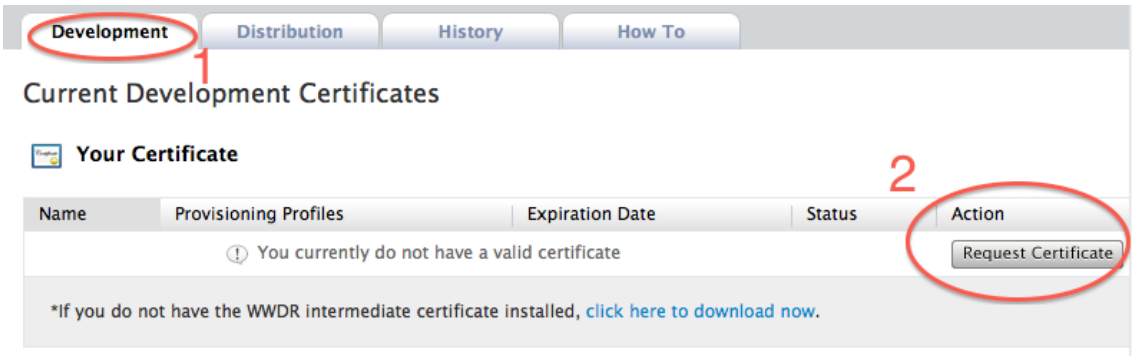


Chose "Certificate"

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.

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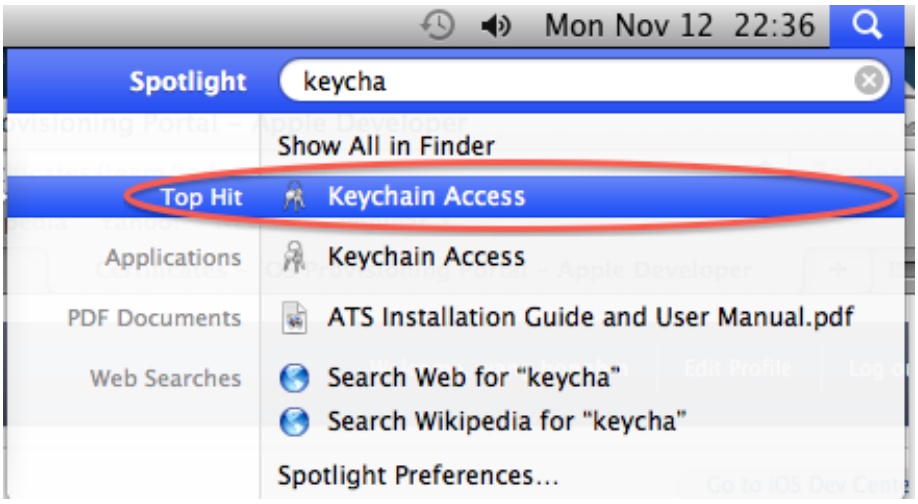
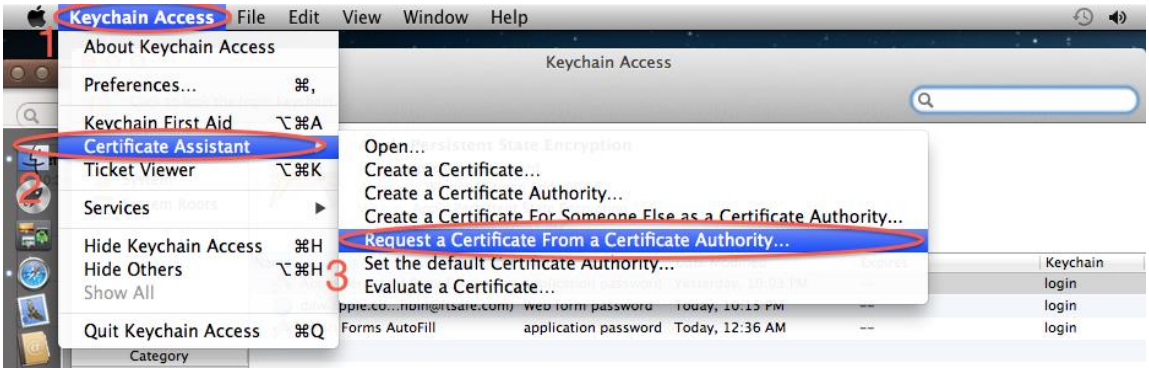
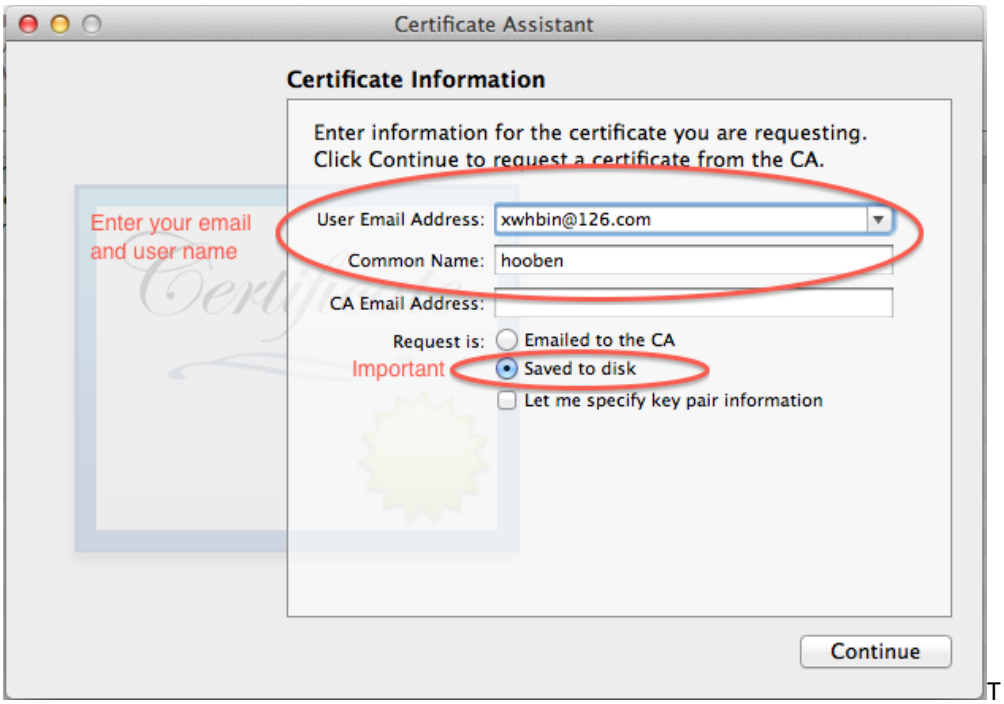


2. Open the software, operation like

below:





T

hen 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

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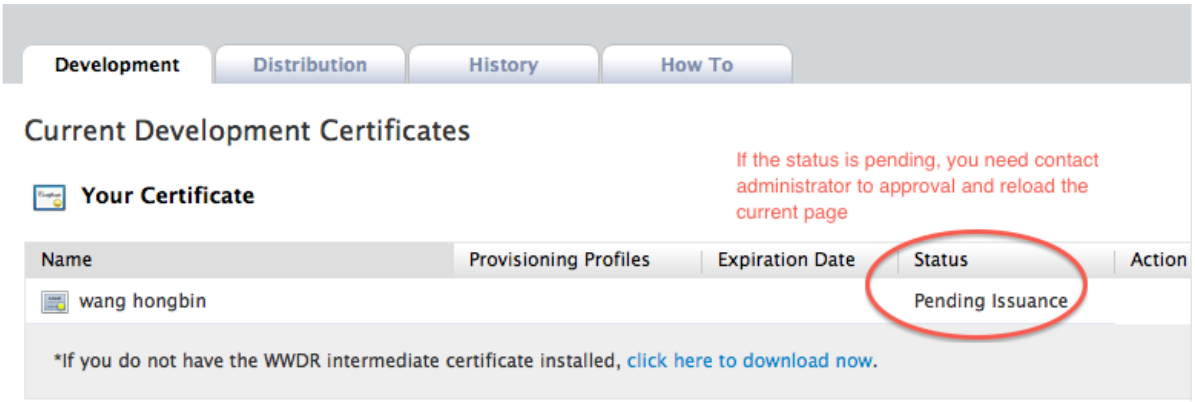
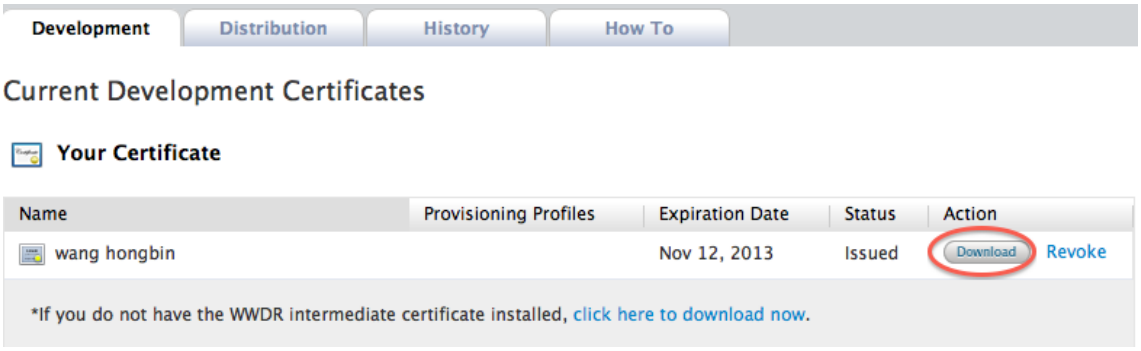
before.

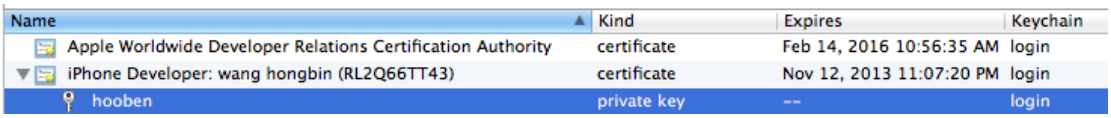


Notes: if you are administrator, once submitted your certificate, you need reload the current page and the status will become "Issued", if you are not normal user, please contact your administrator to approval.

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



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



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

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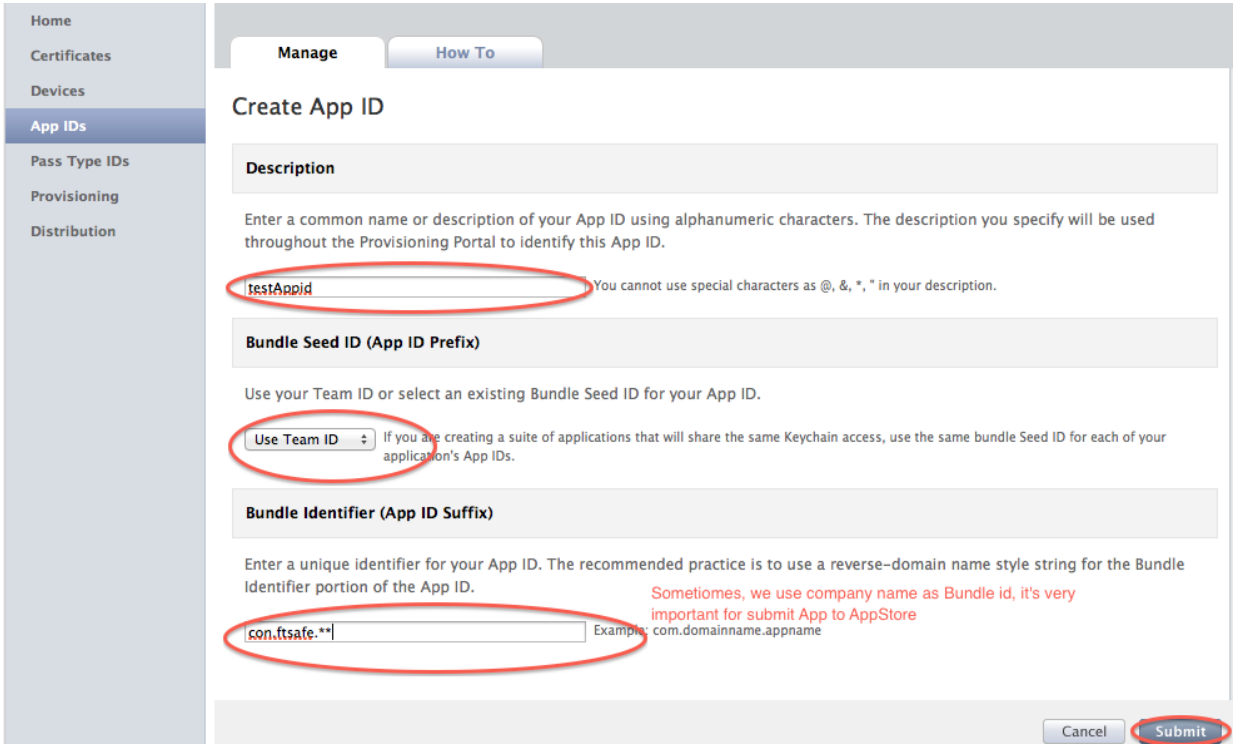

We also need add our real device to developer center, click "Device" button, "Add device" button to input your device name and UDID, the UDID you will be found in the iTunes, like below:

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

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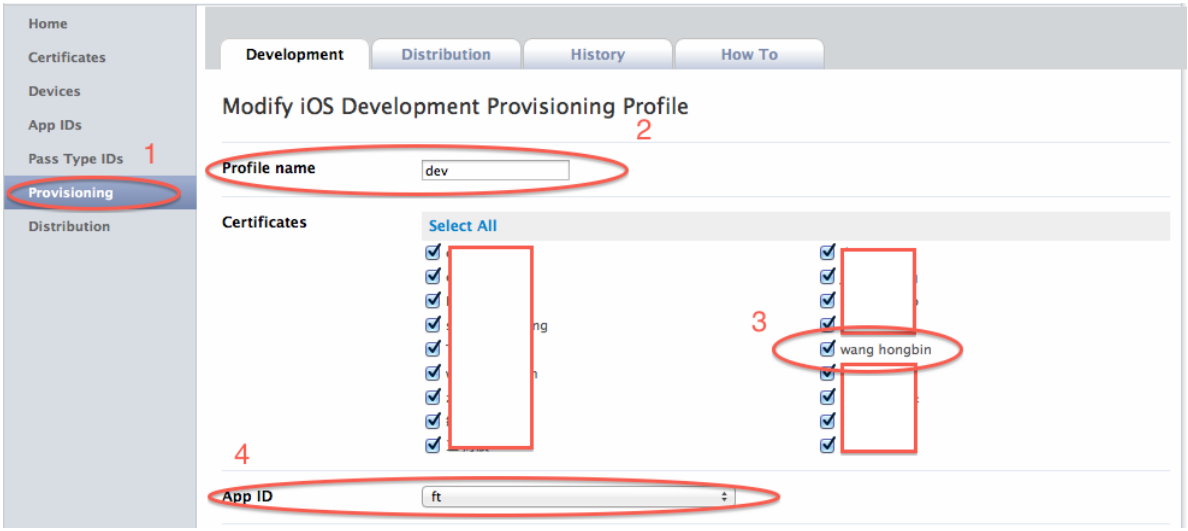
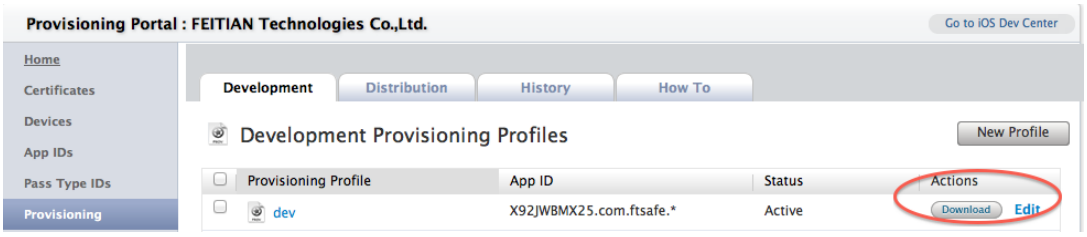
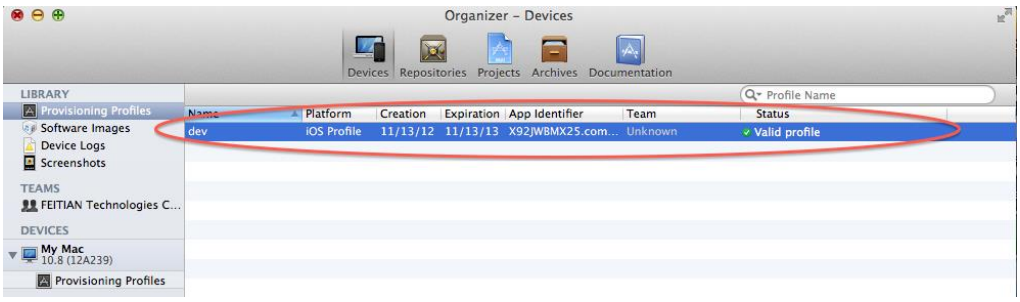


And also select your real device in the "Devices" section, click the "Submit" button to submit your profile to developer center. To download profile and install it:



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. :)

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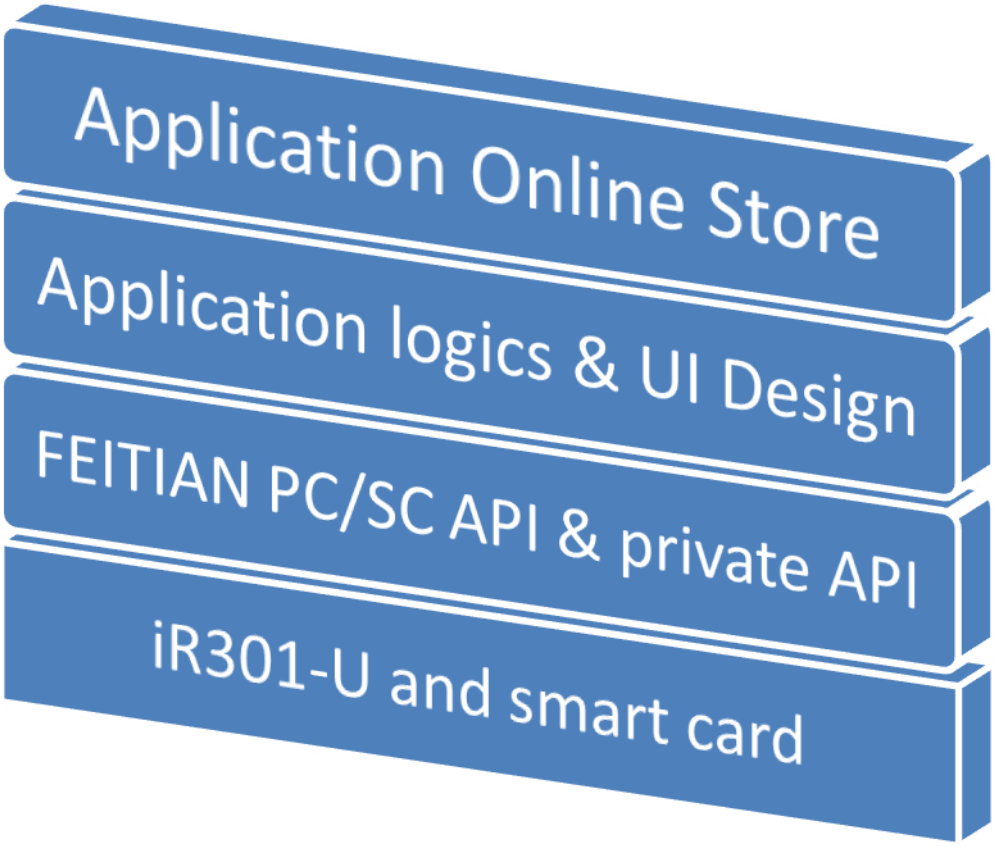
5. Application overview of static library



For iOS platform, the apple provided xCode complier 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:

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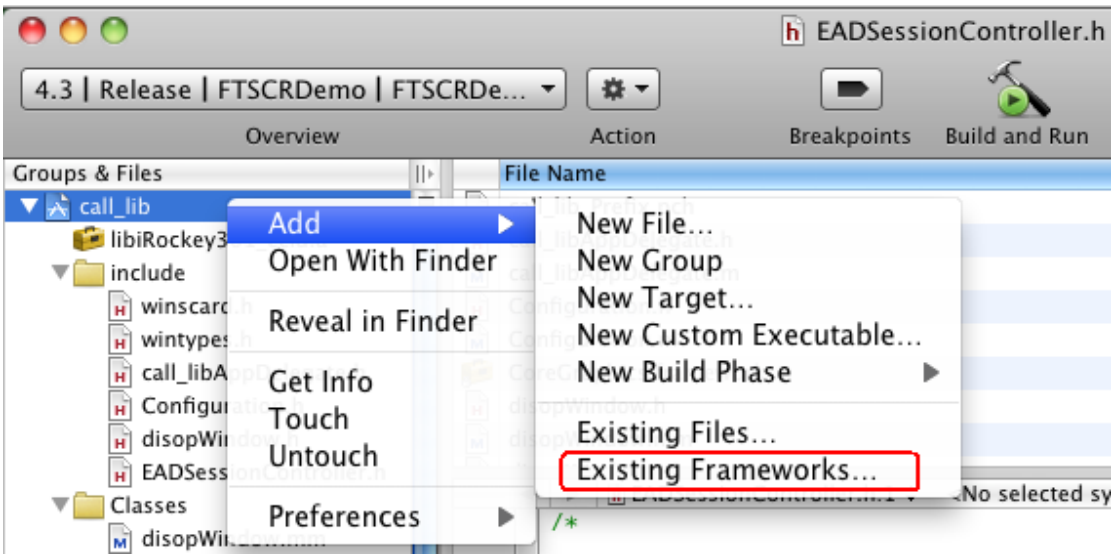
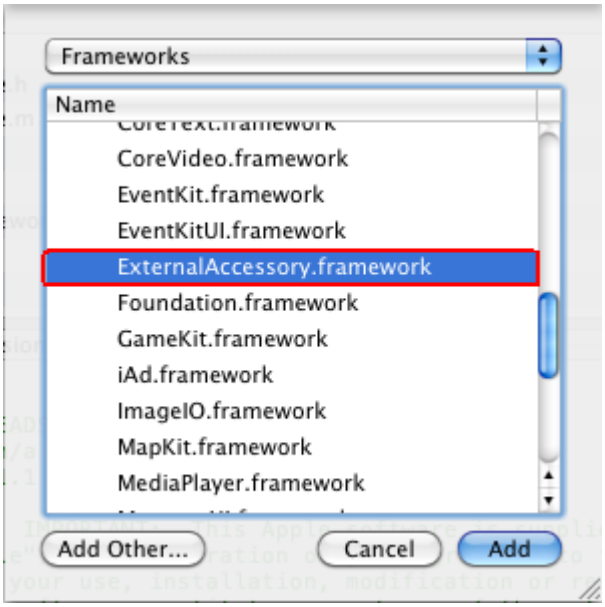
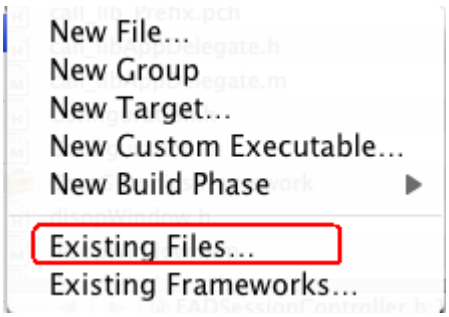




The External Accessory Framework included some API use for communicate with external device.

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



(Use Xcode verison 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

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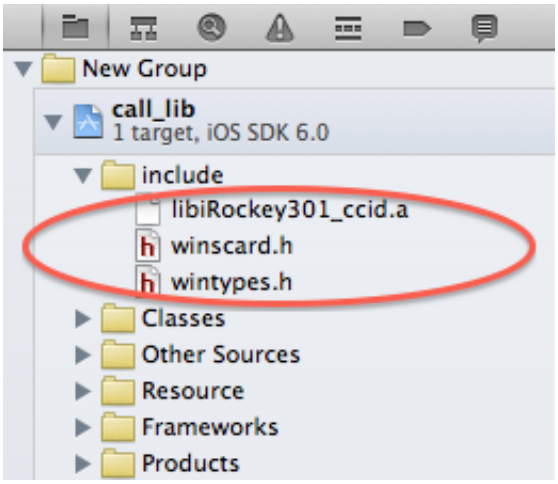
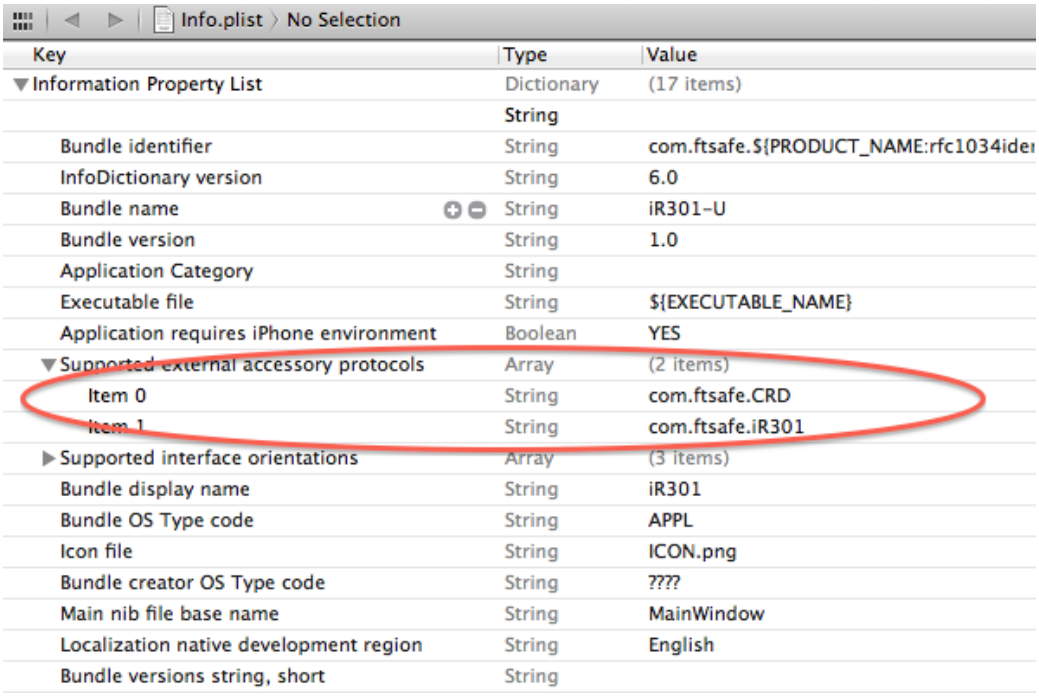
below:



2. 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.



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

3. 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).

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7. How to debug the application with external device?

As you know, the iOS device only has 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.

Before lightning, we provide debug tool for customer, but Apple change their connector to lightning, only 8-PINs, and the current situation we prefer customer using BR301(BLUETOOTH READER), because IR301 and BR301 using same SDK, you can be using wireless device do debug, after switch to IR301.

Place BR301 order, http://ftsafe.com/product/bR301Shop

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 Andriod device?

Yes, the android system must be higher than 4.2+ and your android must be support OTG technologies, thanks

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 cardInterfaceDidDeatach: (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

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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 to get latest SDK.

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