App distribution with **xcrun**
and WatchKit

AUTOMATE COMPILING TO DISTRIBUTING

- Input is Xcode Project on CI Server

- Output is Signed, Provisioned Installable App

TOOLS

- xcode-build (compiling .app)

- **xcrun (packaging .ipa)**

- xcode-select (managing xcode directories)

XCODE-BUILD

- builds an xcode-project and outputs into a .app file

- can't distribute without provisioning profiles and developer certificate
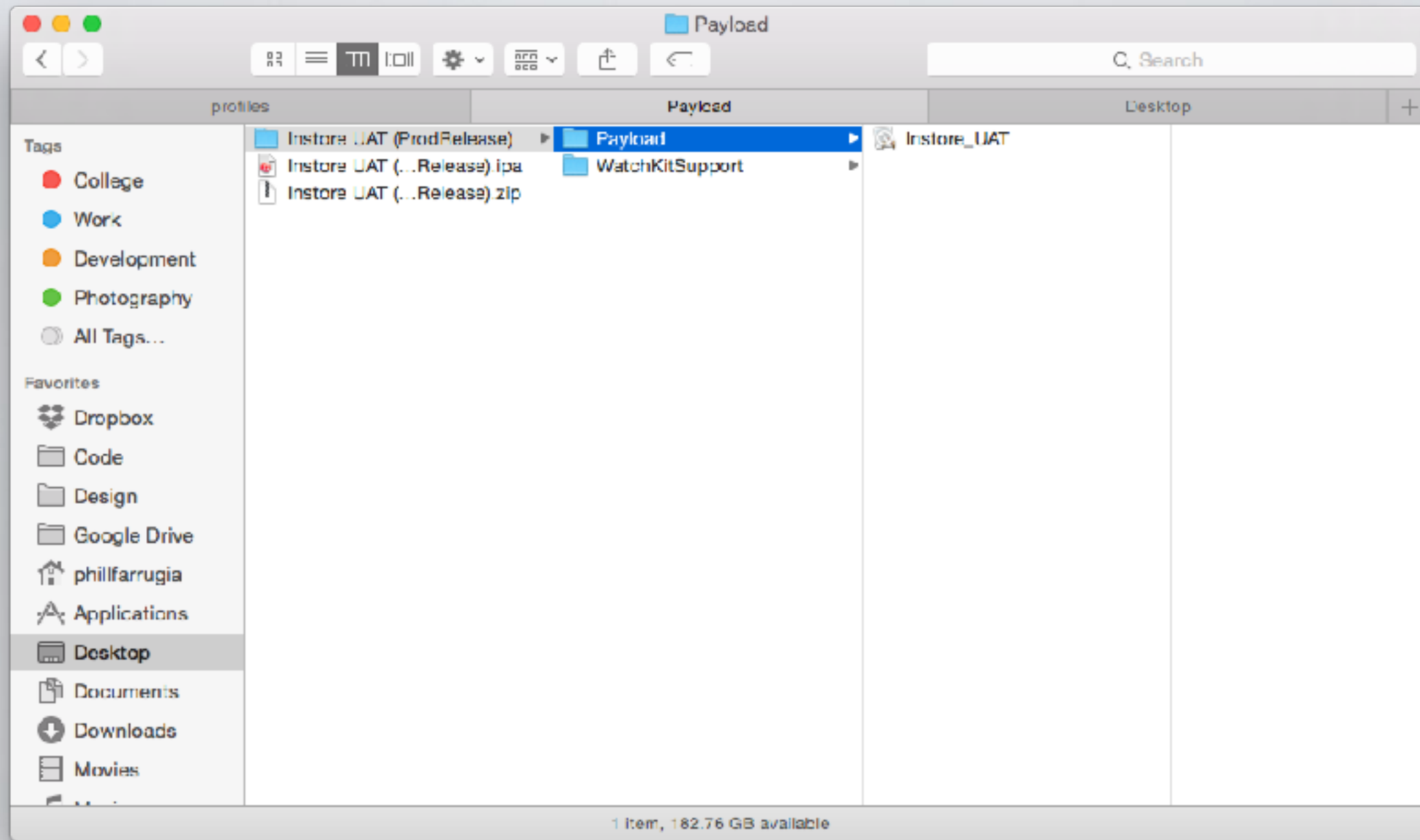
- we need a .ipa package

XCRUN

- packages a .app file (from xcode-build) into a .ipa file with provisioning profiles and developer certificates

- output .ipa is the compressed archived file installable on an iOS device

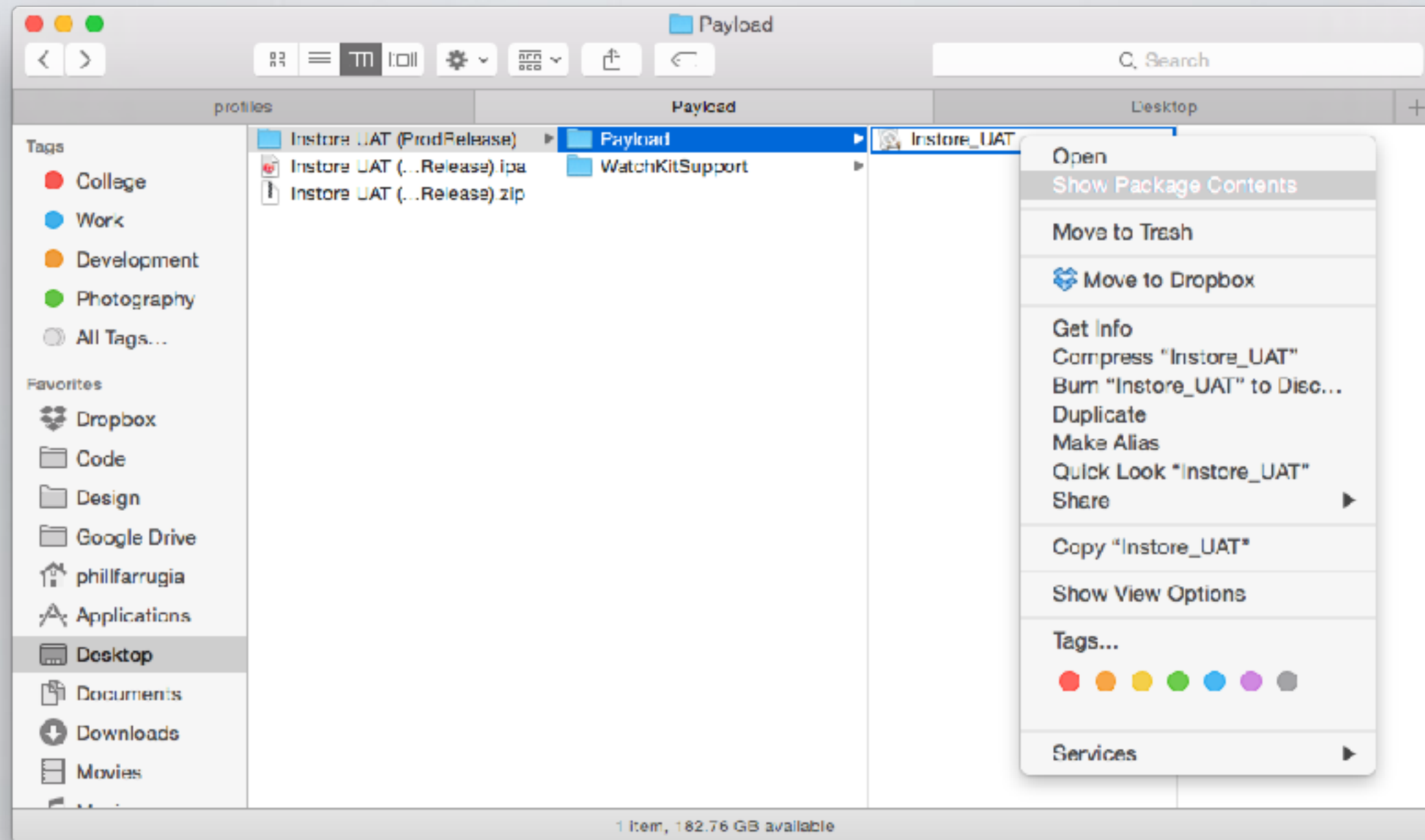- jailbroken devices would allow you to install unsigned .ipa files
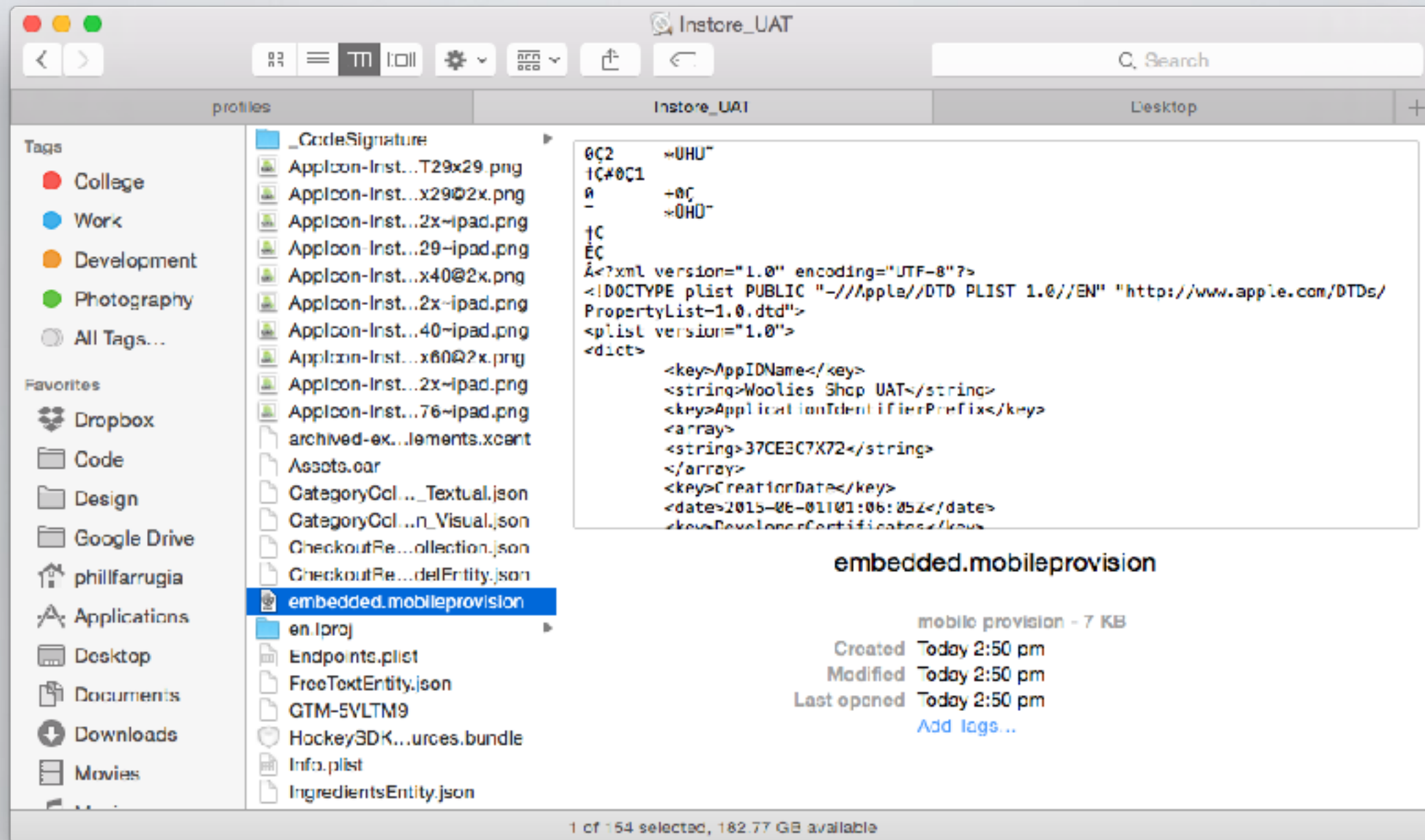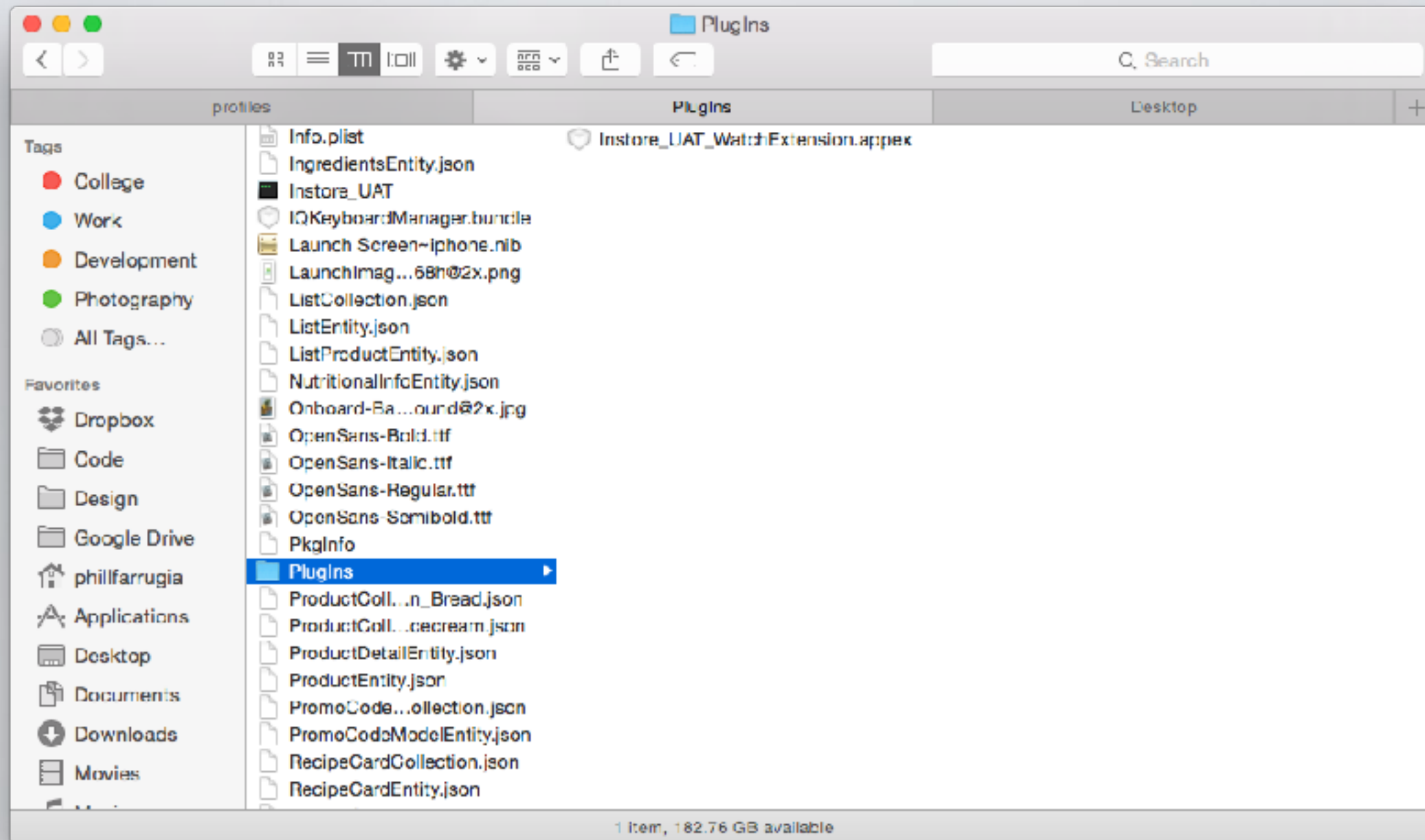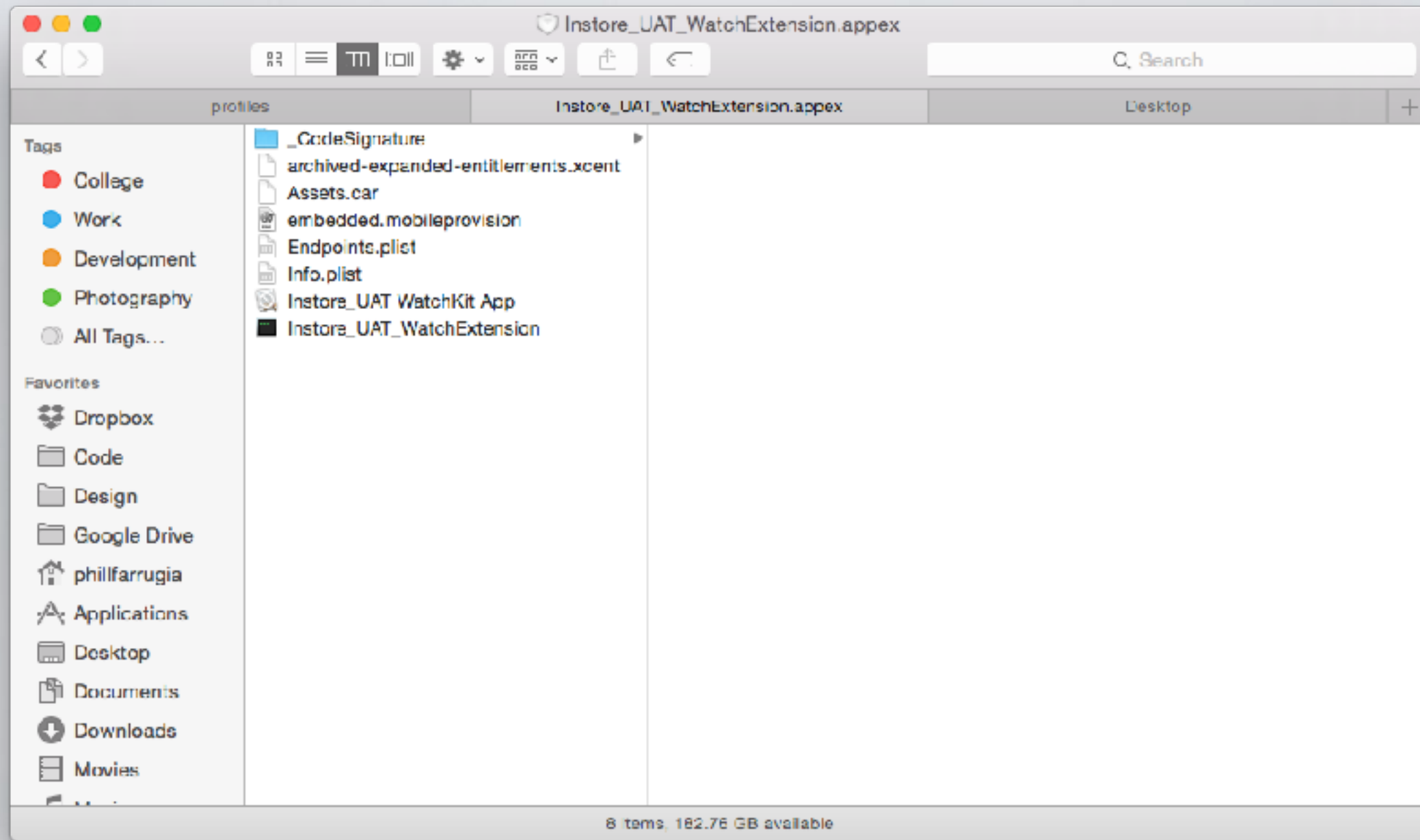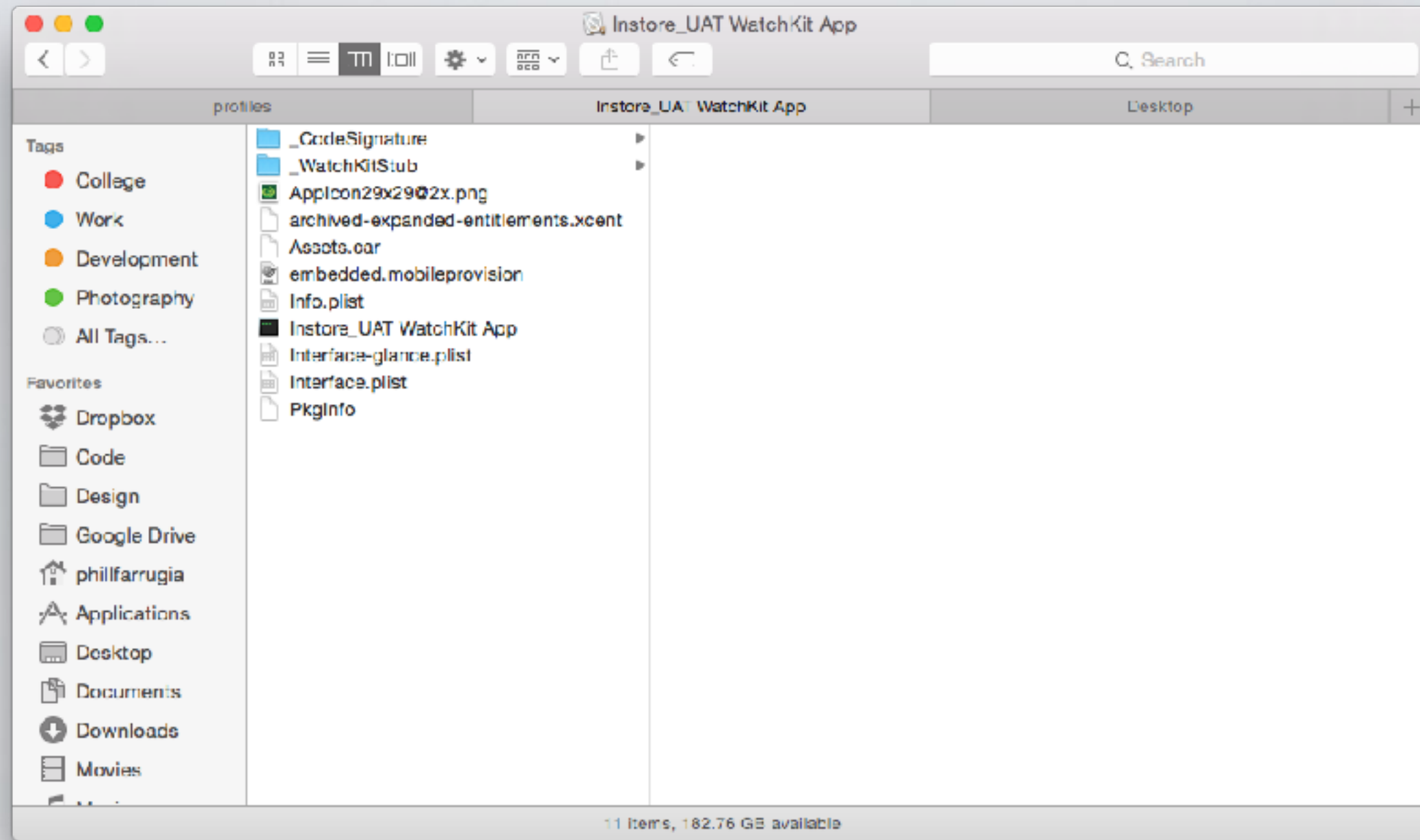
STRUCTURE OF .IPA
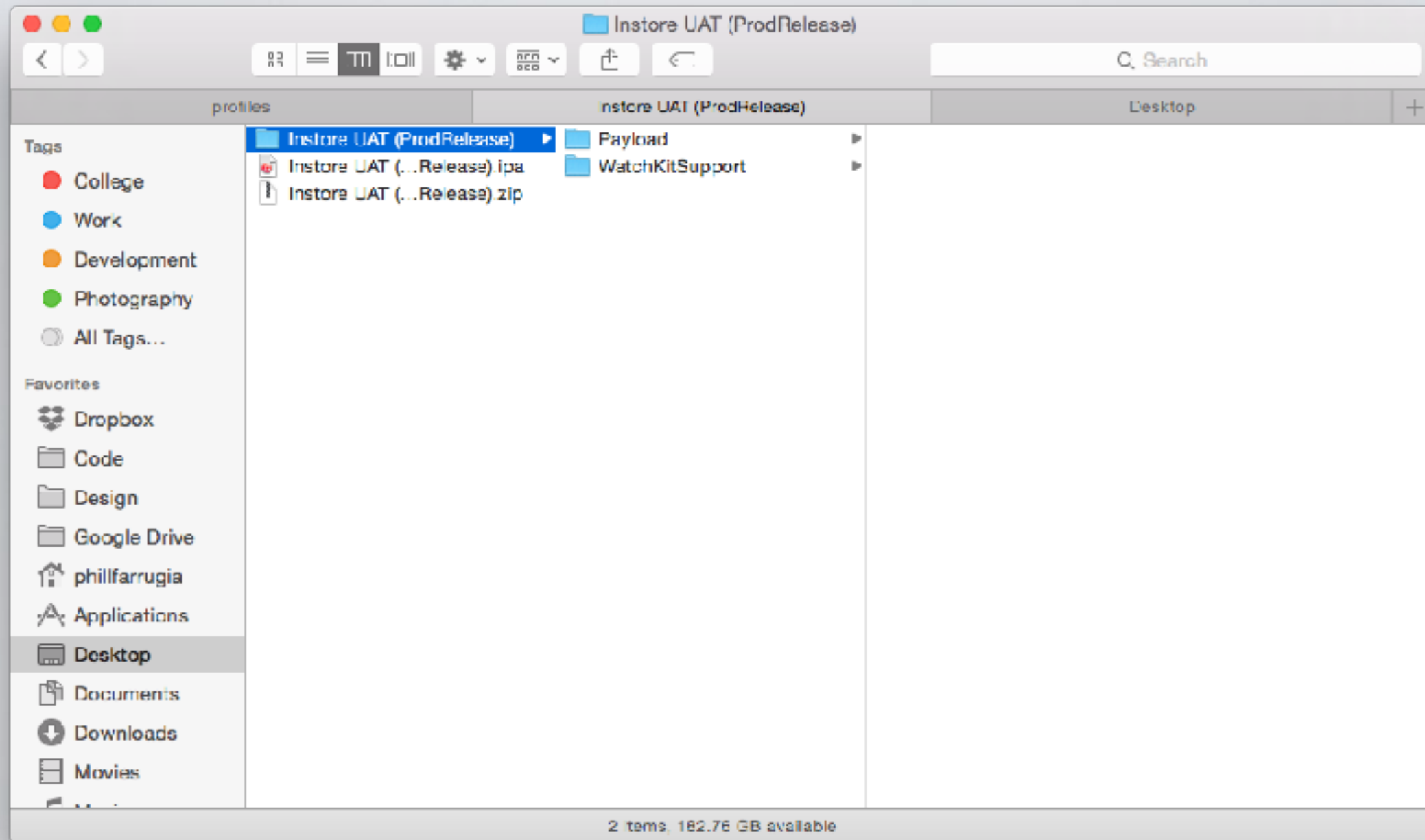
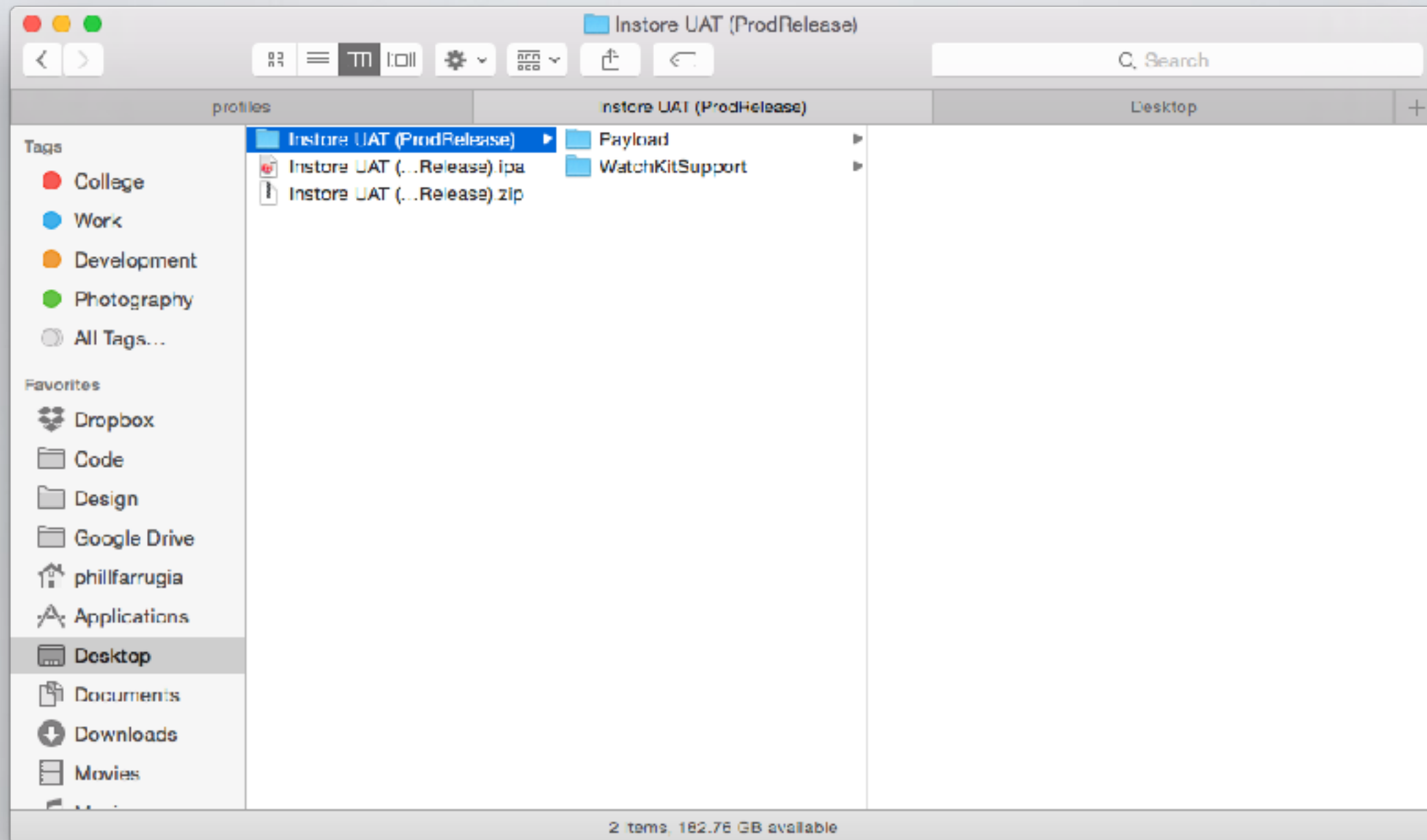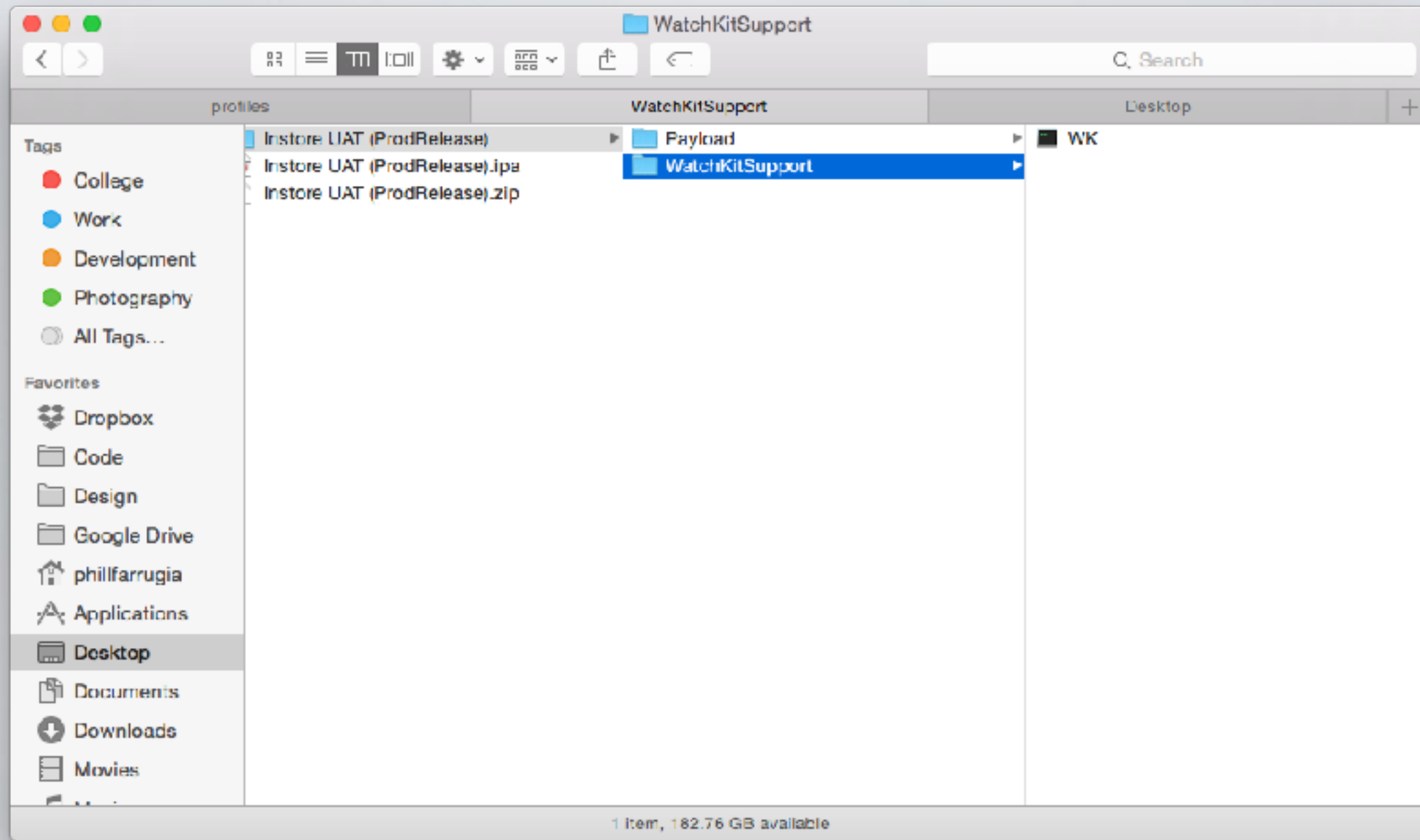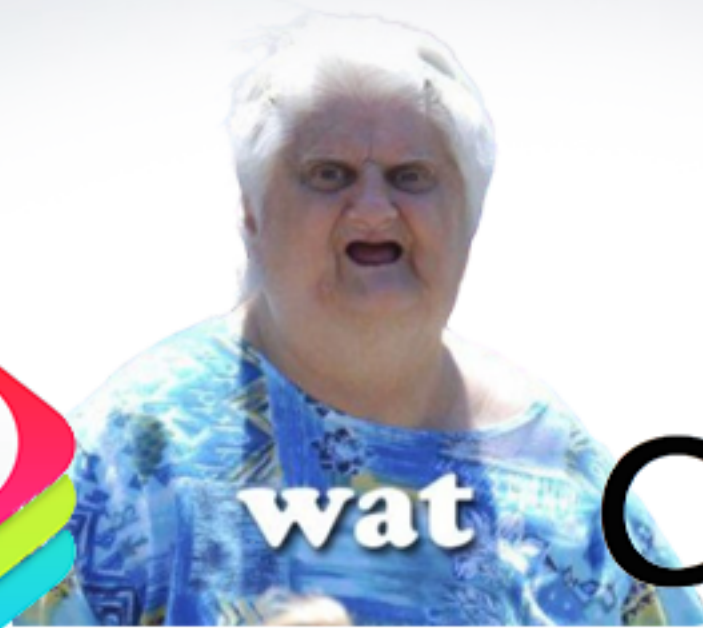# STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

STRUCTURE OF .IPA

watchKit

WORKAROUND

2. Re: Invalid WatchKit Support　　　　　　　　　　　　　　　**99 Quote**　**← Reply**

In response to **HerrBob** on Apr 1, 2015 1:16 PM

behrens
Cupertino, CA
Posts 587 (225)

If you are building your final product outside of Xcode (or have interesting build scripts), before zipping contents to create the IPA, you should:

1. Create a directory named WatchKitSupport as a sibling to Payload.

2. Copy a binary named 'WK' from the iOS 8.2 SDK in Xcode to your new WatchKitSupport directory. This binary can be found at:
/Applications/Xcode.app/Contents/Developer/Platforms/iPhoneOS.platform/Developer/SDKs/iPhoneOS.sdk/Library/Application Support/WatchKit/

3. Make sure the "WK" binary is not touched/re-signed in any way. This is important for validation on device.

4. Zip everything into an IPA.

When expanded the IPA should contain (at least):
xxx.ipa
|_____Payload/
|_____Symbols/
|_____WatchKitSupport/
         |____WK
That should help when building.

WORKAROUND

```sh
#!/bin/sh

echo "*****************************"
echo "*       SIGN RELEASE        *"
echo "*****************************"

xcrun \
-log \
-sdk $IOS_RELEASE_SDK PackageApplication "$PWD/$OUTPUTDIR/Products/$APP_NAME.app" \
-o "$PWD/$OUTPUTDIR/Products/$APP_NAME.ipa" \
-sign "$DEVELOPER_NAME" \
-embed "$PROVISIONING_PROFILE" "$PROVISIONING_PROFILE_WATCHEXT" "$PROVISIONING_PROFILE_WATCHAPP"

# Extract IPA
unzip "$PWD/$OUTPUTDIR/Products/$APP_NAME.ipa"

# Include WatchKitSupport
mkdir "$PWD/$OUTPUTDIR/Products/$APP_NAME/WatchKitSupport"
cp "/Applications/Xcode.app/Contents/Developer/Platforms/iPhoneOS.platform/Developer/SDKs/iPhoneOS.sdk/Library/Application\
    Support/WatchKit/WK" WatchKitSupport/WK

# Repackage
zip -qr "$APP_NAME.ipa" Payload WatchKitSupport

exit $?
```

RADAR