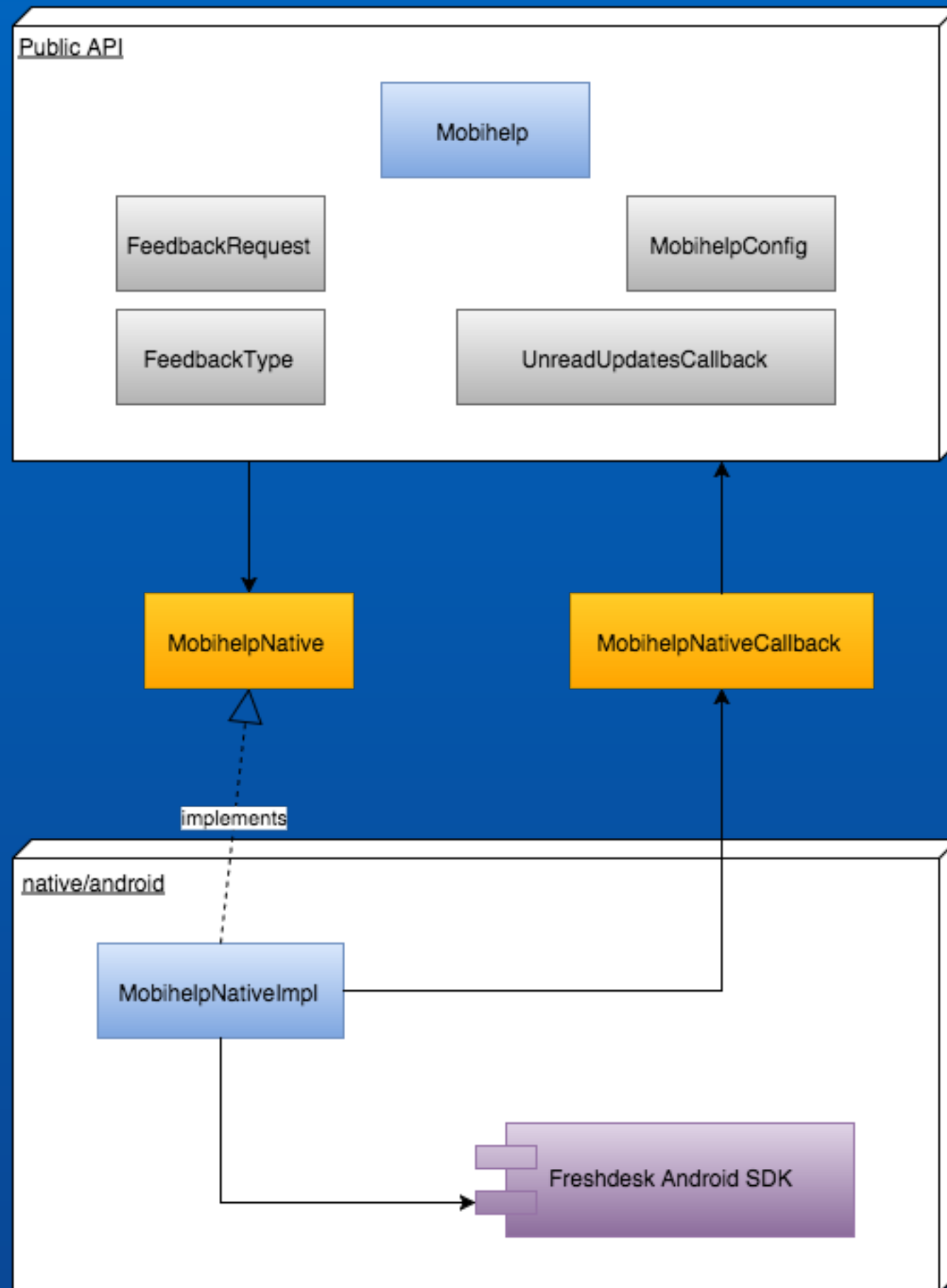


Enhancing Your App with 3rd Party a iOS SDK

Steve Hannah
Codename One
October 8, 2015

Last Time...

- We built a cross-platform API to wrap the FreshDesk Native SDKs
- We implemented the Android native layer.



This Time...

- We'll implement the iOS native layer
 1. Copy resources from Freshdesk SDK into the native/ios directory.
 2. Fill in the generated stubs for Objective-C native interface

Generated Native Interfaces

Name	Date Modified	Size	Kind
▶ android	Sep 19, 2015, 8:03 AM	--	Folder
▶ internal_tmp	Sep 19, 2015, 8:03 AM	--	Folder
▼ ios	Today, 12:07 PM	--	Folder
h com_codename1_freshdesk_MobihelpNativeImpl.h	Sep 19, 2015, 8:03 AM	3 KB	C header code
m com_codename1_freshdesk_MobihelpNativeImpl.m	Sep 19, 2015, 8:03 AM	7 KB	Object...e code
libFDMobihelpSDK.a	Sep 19, 2015, 8:03 AM	16.6 MB	Document
MHLocalizable.strings	Sep 19, 2015, 8:03 AM	4 KB	text
MHModel.bundle	Sep 19, 2015, 8:03 AM	44 KB	Bundle
MHResources.bundle	Sep 19, 2015, 8:03 AM	75 KB	Bundle
h Mobihelp.h	Sep 19, 2015, 8:03 AM	8 KB	C header code
▶ j2me	Sep 19, 2015, 8:03 AM	--	Folder
▶ javascript	Sep 19, 2015, 8:03 AM	--	Folder
▶ javase	Sep 19, 2015, 8:03 AM	--	Folder
▶ rim	Sep 19, 2015, 8:03 AM	--	Folder
▶ win	Sep 19, 2015, 8:03 AM	--	Folder

Freshdesk SDK


```
#import "Mobihelp.h"
```

Calling Static Java Methods from C

Java:

```
void  
com.codename1.freshdesk.MobihelpNativeCallback.fireUnreadUp  
datesCallback(int a, int b, int c);
```

==

C:

```
void  
com_codename1_freshdesk_MobihelpNativeCallback_fireUnreadUp  
datesCallback___int_int_int(ThreadLocalData*  
threadStateData, int a, int b, int c);
```

Non-Void Return types

- Append `_R_<returntype>` to the end of the method.
- e.g. `JAVA_INT`
`java_lang_Integer_parseInt__java_lang_String`
`_R_int(TheadLocalData *threadStateData,`
`JAVA_OBJECT str);`

ThreadLocalData

- Thread state is passed as first parameter of all methods.
- Use the **CN1_THREAD_GET_STATE_PASS_ARG** macro to obtain current thread state to pass as first arg.
 - No “comma” required.
 - e.g. :

```
com_codename1_freshdesk_MobihelpNativeCallback_fireUnreadUpdatesCallback___int_int_int(CN1_THREAD_GET_STATE_PASS_ARG a, b, c);
```
- Use **CN1_THREAD_GET_STATE_PASS_SINGLE_ARG** macro to obtain current thread state to pass as only arg.
 - e.g. :

```
com_codename1_ui_Display_getInstance__R_com_codename1_ui_Display(CN1_THREAD_GET_STATE_PASS_SINGLE_ARG);
```

View Controller

- Sometimes APIs require you to pass the current “view controller” as a parameter so it knows how to return to your app’s view when it’s done.
- Codename One apps use a single universal view controller:

CodenameOne_GLViewController

```
#import "CodenameOne_GLViewController.h"
```

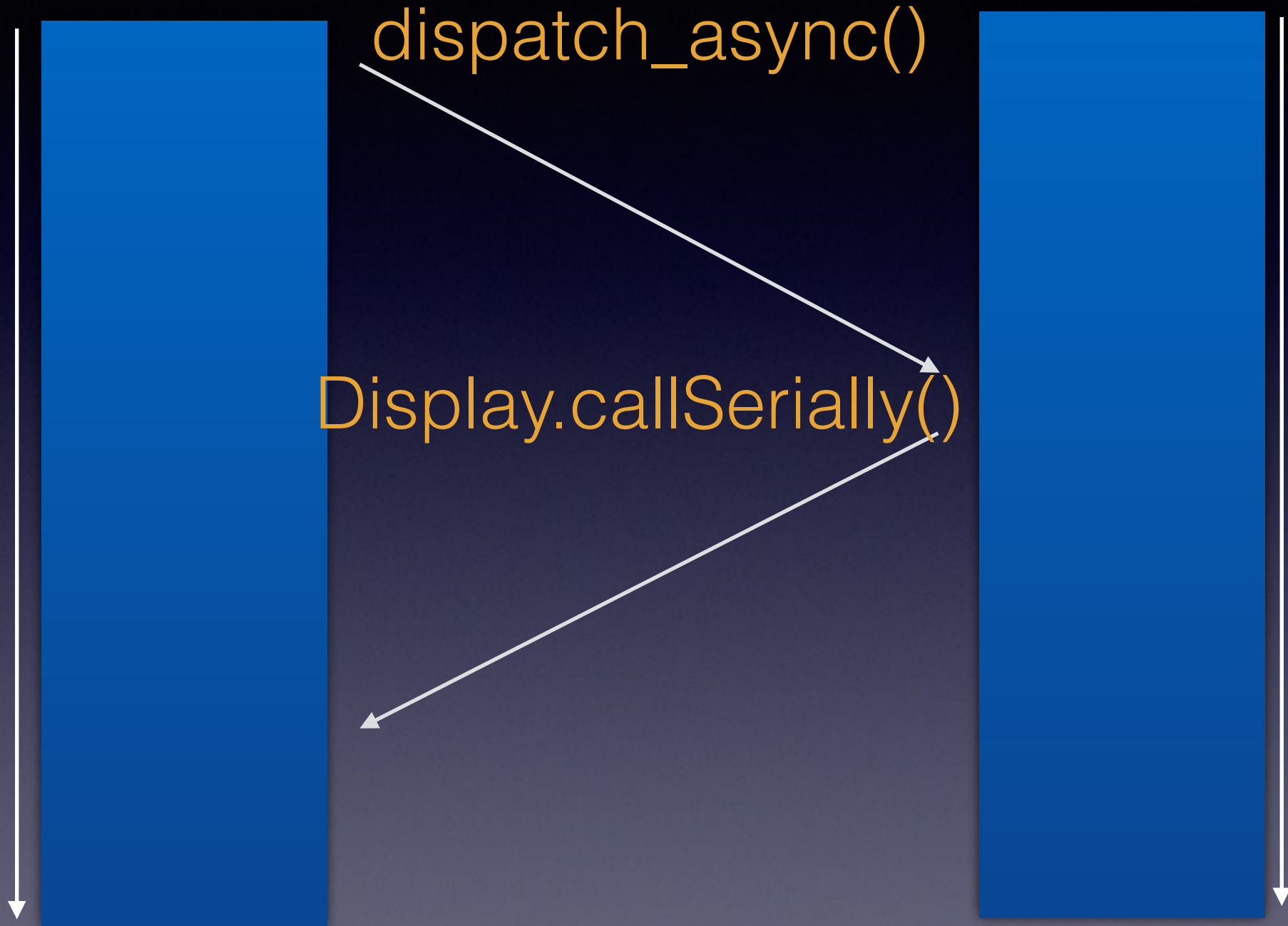
```
[CodenameOne_GLViewController instance]
```

Threaded Thinking

- Codename One code usually runs on its own EDT (Event Dispatch Thread)
- Native iOS code usually runs on “main” thread
- main thread \neq Codename One EDT
 - Take care to run code on the correct thread.

EDT

Main Thread



`dispatch_async()`

`Display.callSerially()`

Calling from CN1 into Native:

```
-(void)getUnreadCountAsync:(int)param{
    dispatch_async(dispatch_get_main_queue(), ^{
        [[Mobihelp sharedInstance] unreadCountWithCompletion:^(NSInteger count){
            com_codename1_freshdesk_MobihelpNativeCallback_fireUnreadUpdatesCallback__int_int_int
                (CN1_THREAD_GET_STATE_PASS_ARG param, 3 /*SUCCESS*/, count);
        }]);
    });
}
```

Calling from Native into CN1

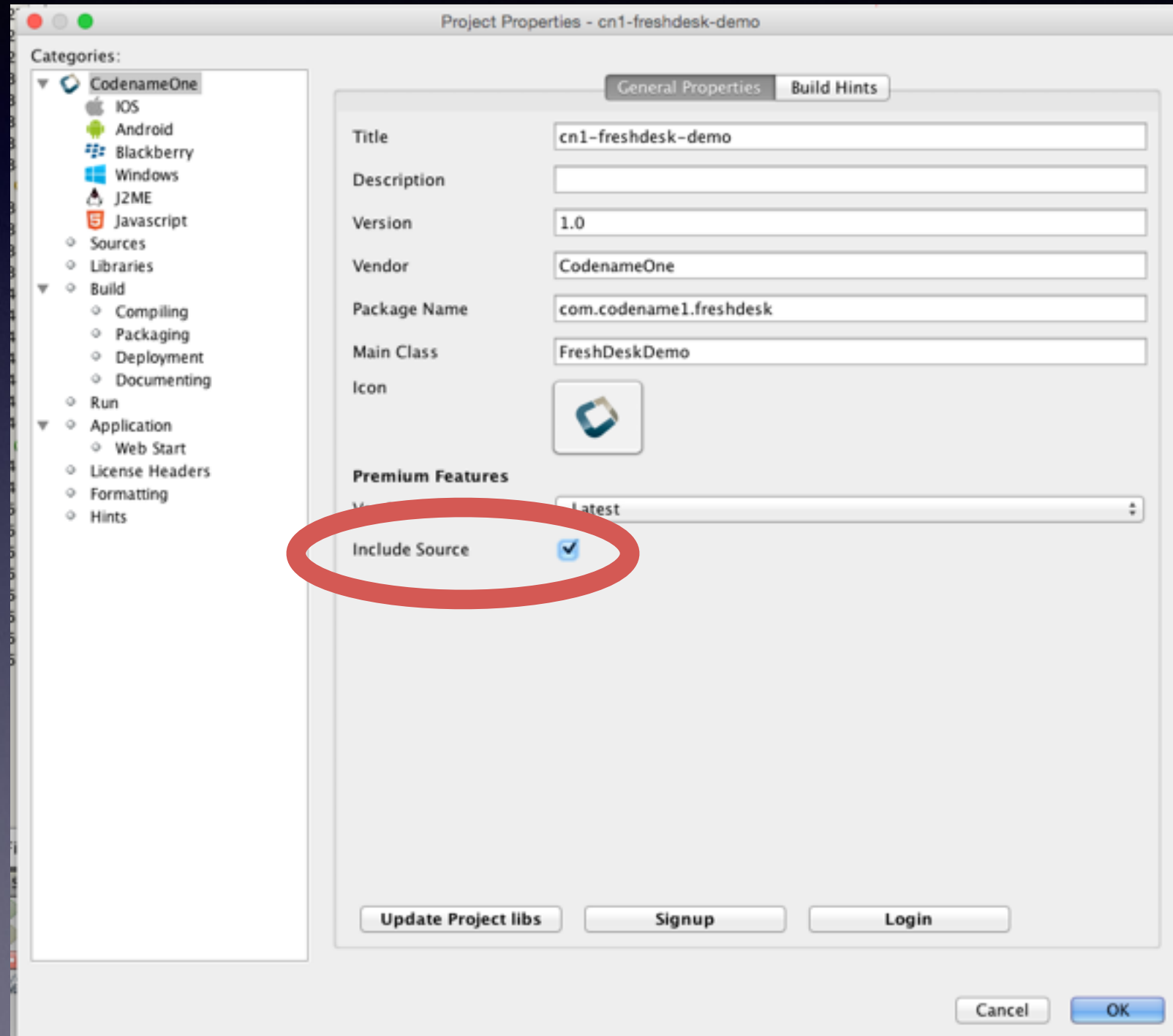
```
public static void fireUnreadUpdatesCallback(int callbackId, final int status, final int count) {
    final UnreadUpdatesCallback cb = callbacks.get(callbackId);
    if (cb != null) {
        Display.getInstance().callSerially(new Runnable() {
            public void run() {
                MobihelpCallbackStatus status2 = MobihelpCallbackStatus.values()[status];
                cb.onResult(status2, count);
            }
        });
    }
}
```

Troubleshooting

- What if there is a build error?



Include Sources



Hands-on Demo