

CROSS TECHNOLOGIES
IOS & OS X
TOGETHER AGAIN

(+ SOME OTHER GAME CENTER &
STORE KIT TIPS & TRICKS)



wired.it

MANUEL **@STUFFMC** CARRASCO MOLINA
POMCAST.BIZ [OBJCGN.COM]

fflip!

UNIVERSAL?



f f l p !

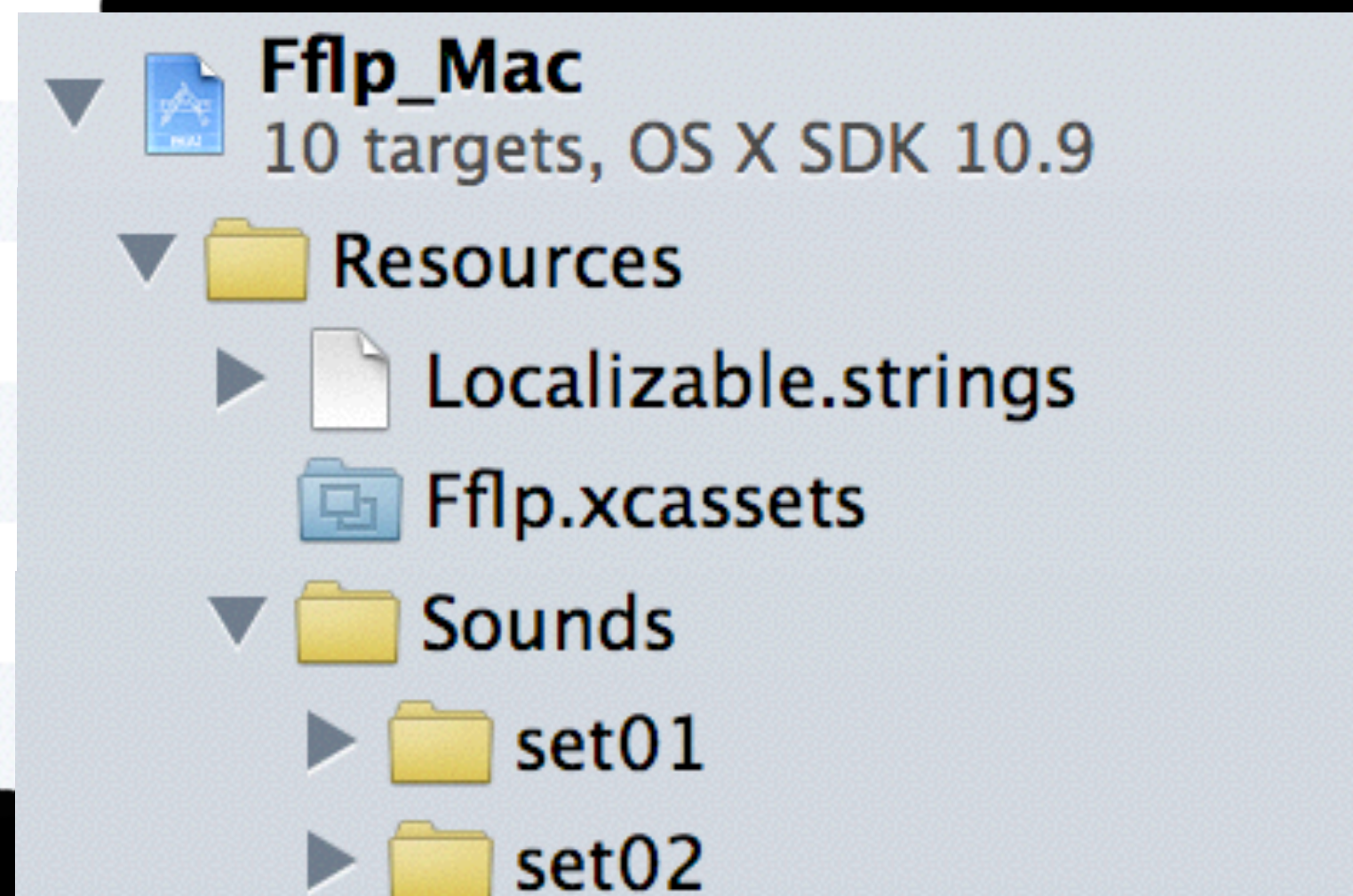
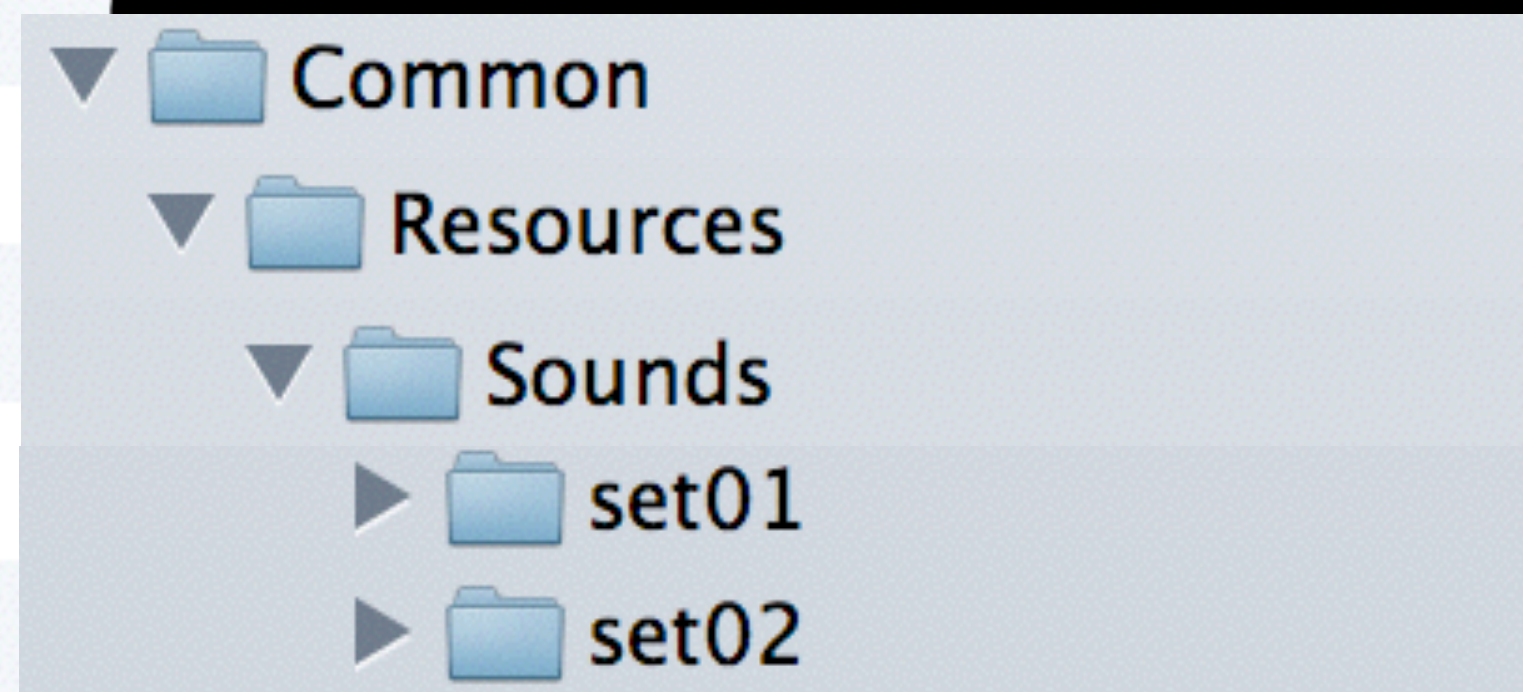
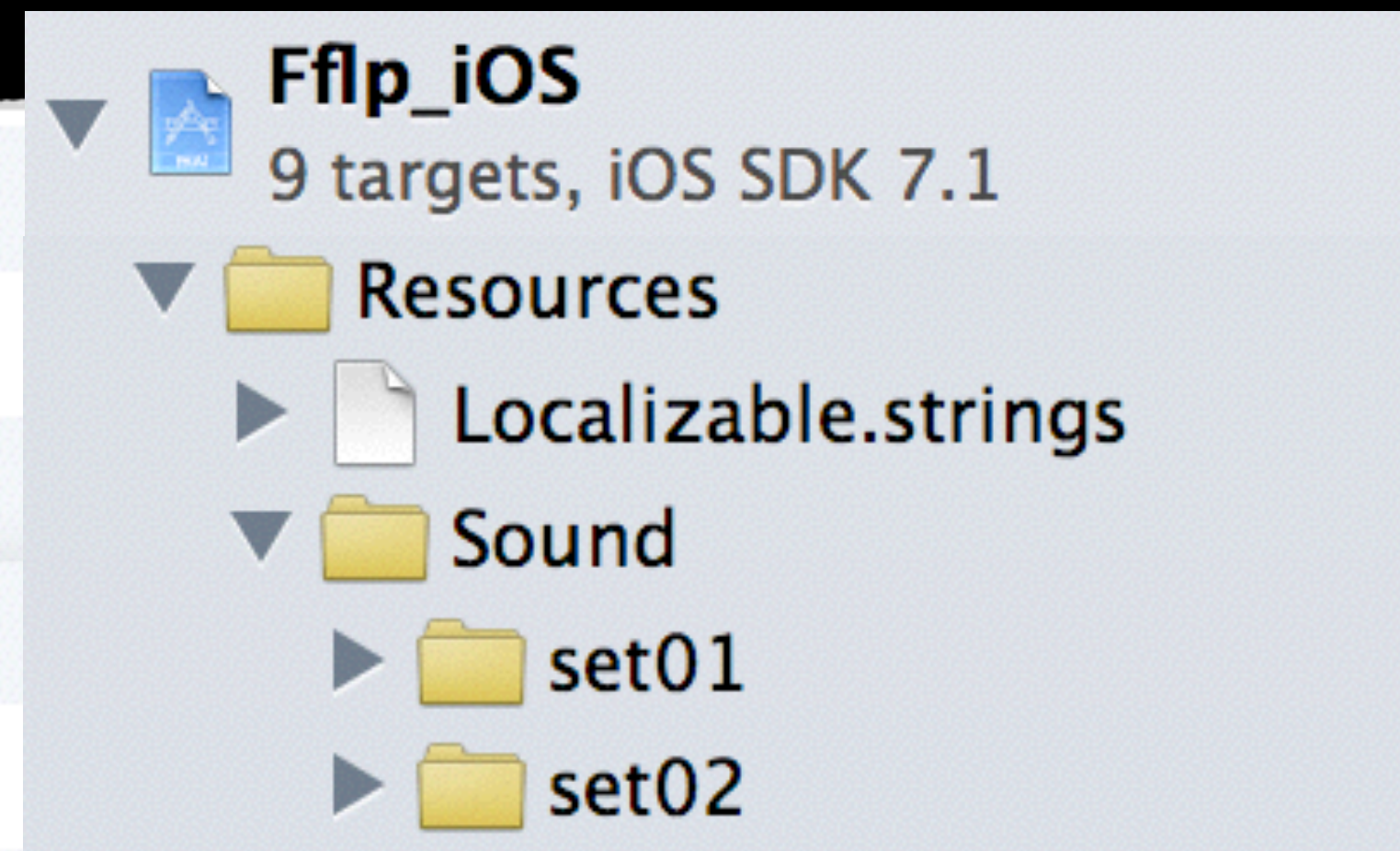
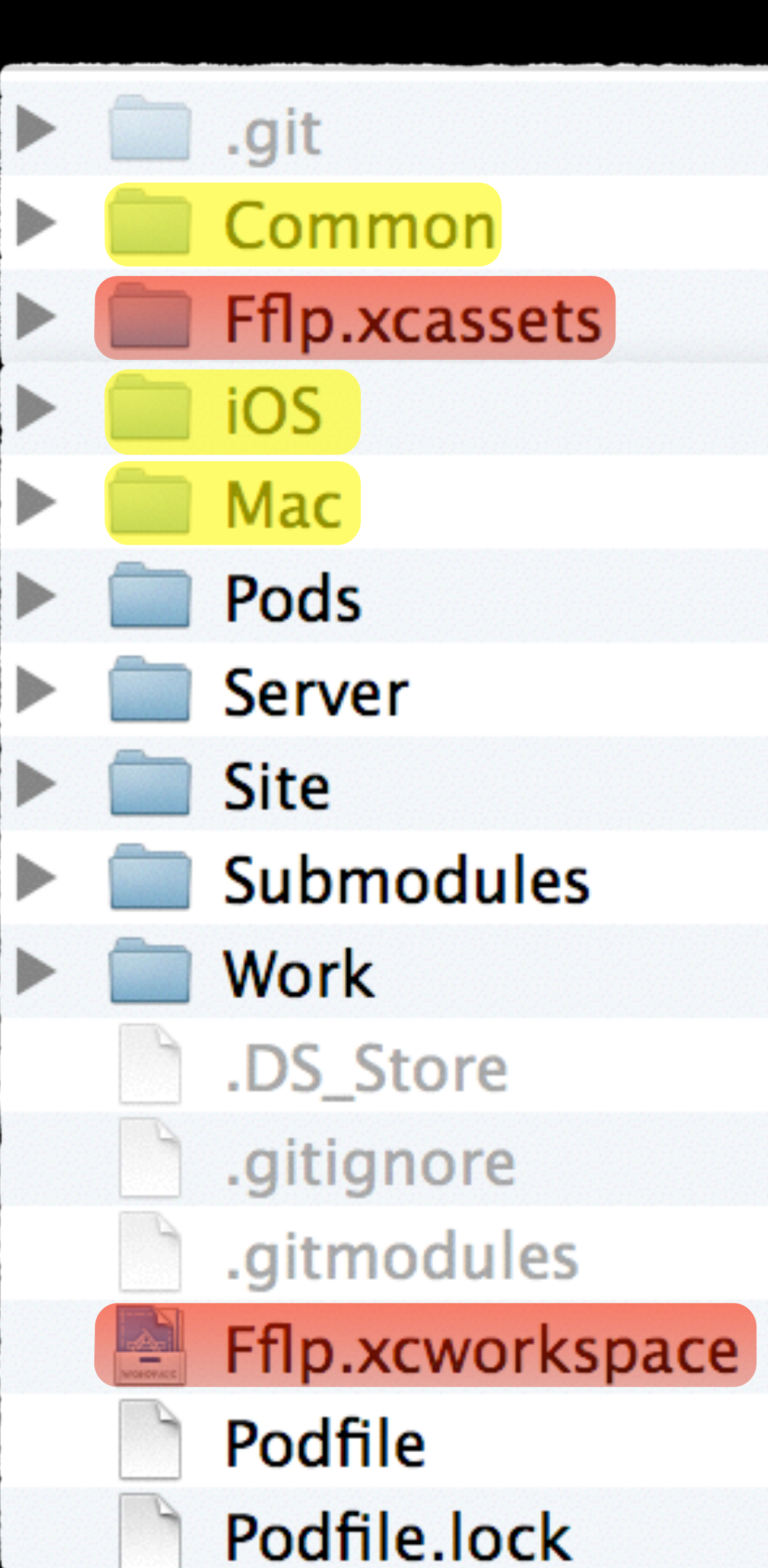


SEE VIDEO @ [FFLP.ME](https://fflp.me)

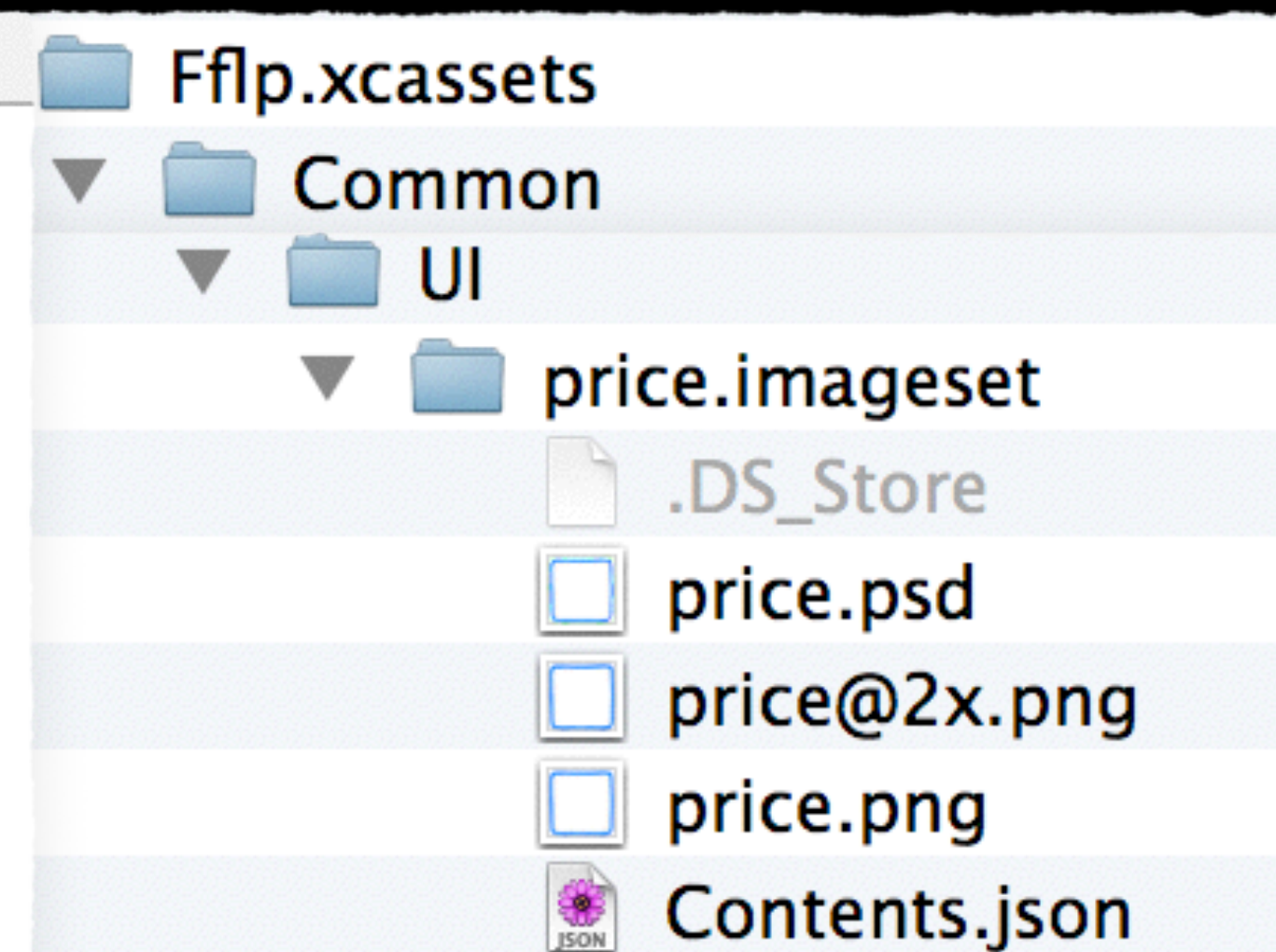
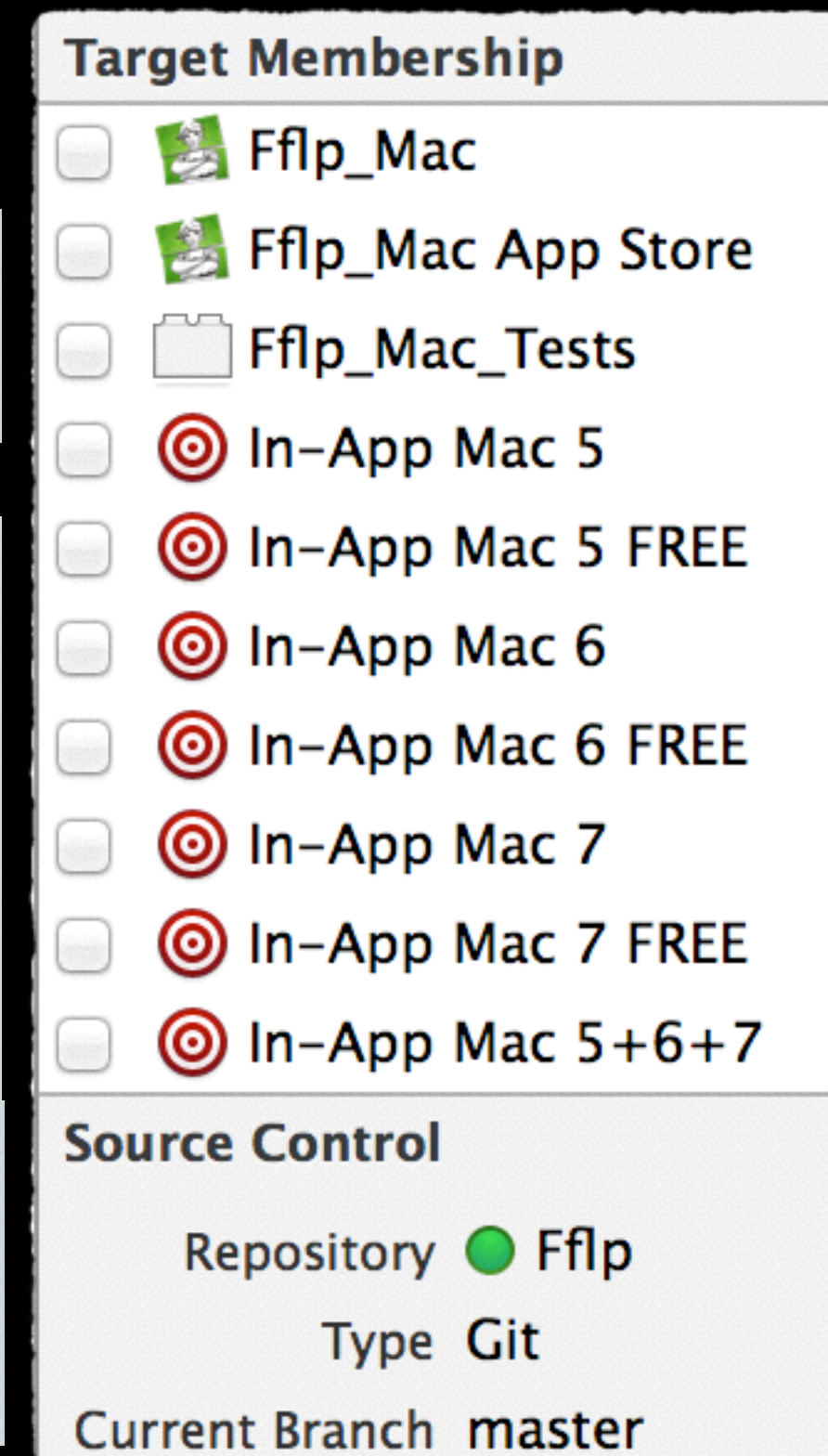
I WAS GONNA BUILD AN IOS APP, BUT...

- I love the Mac
- StoreKit support on the simulator is... not.
- GameCenter allows to share between iOS & OS X!
- We'll see Push Notifications are Common as well!
- I love the Mac

WARNING: APP STORES ONLY :(
LIKE ICLOUD, MAPKIT, ...



“ .xcasset referenced from a Workspace in a Project can't be found at Runtime”

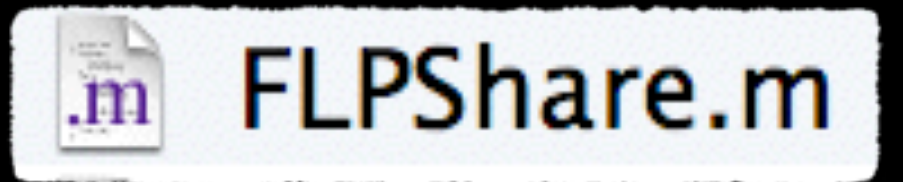


JPG > PNG
WTF?!

UIImage/NSImage

- Both have initWithData
- Might not want to load images directly from the Bundle anyways
 - e.g. Apply a Watermark, Invert Colors, ...
- Be carefull of slightly different concepts for Scaling

USING #IF TARGET_



```
NSArray *items = @[_(FL_SHARE_TITLE), SHARE_URL, screenshot];  
#if TARGET_IOS
```

```
#define TARGET_IOS (TARGET_OS_IPHONE || TARGET_IPHONE_SIMULATOR)
```

TargetConditionals.h



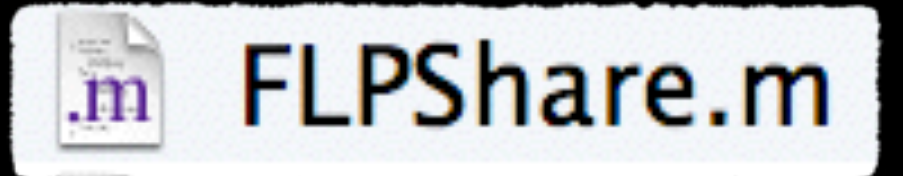

```
#endif
#if TARGET_CPU_PPC64 || TARGET_CPU_X86_64
    #define TARGET_RT_64_BIT 1
#else
    #define TARGET_RT_64_BIT 0
#endif
#ifdef __MACH__
    #define TARGET_RT_MAC_MACH0 1
    #define TARGET_RT_MAC_CFM 0
#else
    #define TARGET_RT_MAC_MACH0
    #define TARGET_RT_MAC_CFM
#endif
```

```
#endif
```

```
#endif /* __TARGETCONDITIONALS__ */
```



USING #IF TARGET_




```
NSArray *items = @[_(FL_SHARE_TITLE), SHARE_URL, screenshot];
#if TARGET_IOS
    aVC = [UIActivityViewController initWithActivityItems:items];
    [aVC setValue:_(FL_SHARE_SUBJECT) forKey:@"subject"];
    aVC.completionHandler = ^(NSString *activityType, BOOL completed) {...};
    [host presentViewController:activityVC animated:YES completion:nil];
#else
    sharingSP = [[NSSharingServicePicker alloc] initWithItems:items];
    sharingServicePicker.delegate = self;
    [sharingServicePicker showRelativeToRect:sender.frame
                                ofView:sender.superview
                                preferredEdge:NSMinXEdge];
#endif
```



WHEN IT'S NOT *EXACTLY* THE SAME...

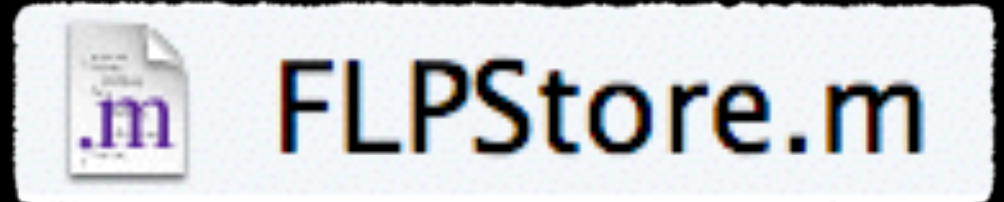
 [FLPGame.m](#)

 [FLPStore.m](#)

- `GKAchievement *achievement = ... // Get it...`
- `if ([achievement.playerID isEqualToString:....`
- `GKAchievement.h`
 - `iOS: @property playerID`
 - `OS X: ... (crickets).`

Just an example
– because I actually
don't need playerID

WHEN IT'S NOT *EXACTLY* THE SAME...



```
- (void)paymentQueue:(SKPaymentQueue *)queue updatedDownloads:(NSArray *)downloads
{
    for (SKDownload *download in downloads)
    {
        ...
    }
    #if TARGET_IOS // Because SKDownload doesn't have a transaction on the Mac.

        [self finishTransaction:download.transaction];

    #else                // So we have to "look" for it

        for (SKPaymentTransaction *trans in [[SKPaymentQueue defaultQueue] transactions]) {
            if ([trans.downloads containsObject:download]) {
                [self finishTransaction:trans];
            }
        }
    #endif
}
```


USING CATEGORIES

```
@interface FLImageHelper : NSObject

+ (FLImage*)imageNamed:(NSString*)name highRes:(BOOL)highRes;

@end

#if TARGET_IOS

@interface UIImage (Encrypted)
+ (UIImage*)fl_imageNamed:(NSString*)name;
@end

#else

@interface NSImage (Encrypted)
+ (NSImage*)fl_imageNamed:(NSString*)name;
- (NSImage*)previewImage;
@end

#endif
```

```
#if TARGET_IOS
    #define FLImage UIImage
#else
    #define FLImage NSImage
#endif
```


USING #DEFINES

Fake it on one platform to use the same code

```
- (BOOL)      application:(UIApplication *)application
  didFinishLaunchingWithOptions:(NSDictionary *)launchOptions {

    if (checkDict(launchOptions) { ... }
}

// Common
BOOL isValidParameter(NSDictionary *userInfo) {
    NSURL *url = userInfo[UIApplicationLaunchOptionsURLKey];
    ...
}

#define UIApplicationLaunchOptionsURLKey @"UIApplicationLaunchOptionsURLKey"

- (void)handleURLEvent:(NSAppleEventDescriptor*)event
  withReplyEvent:(NSAppleEventDescriptor*)replyEvent {
    NSString *string = [[event paramDescriptorForKeyword:keyDirectObject] stringValue];
    if (isValidParameter(@{UIApplicationLaunchOptionsURLKey: [NSURL URLWithString:string]}))
    {
```


ITUNES CONNECT

- Game Center is *really* universal — unlike its Icon
 - Share a Leaderboard between more apps (also mixed iOS & Mac OS)



Apple iTunes Connect

Fflp!

Reference Name [Edit](#)

Group Reference Name **Fflp!**

Apps in this Group

6 Games

	App Name ▲	Apple ID ▶	App Type ▶
		748104890	iOS
		741605908	iOS
	Fflp! — « mix & match » for little ones	740105644	iOS
		762472427	Mac OS X
		766769344	Mac OS X
	Fflp! — « mix & match » for little ones	754052884	Mac OS X

ITUNES CONNECT

- Game Center is *really* universal — unlike its Icon
 - Share a Leaderboard between more apps (also mixed iOS & Mac OS)



Group Leaderboards

Leaderboards

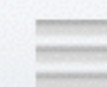
Leaderboards allow users to view the top scores of all Game Center players using the same app version cannot be removed.

Add Leaderboard

Move All Leaderboards into Leaderboard Sets

1 Leaderboard

Reference Name



Best Sharers.

ITUNES CONNECT

- Game Center is *really* universal — unlike its Icon
 - Share a Leaderboard between more apps (also mixed iOS & Mac OS)
 - Also share Achievements — could be convenient to “fix” StoreKit.



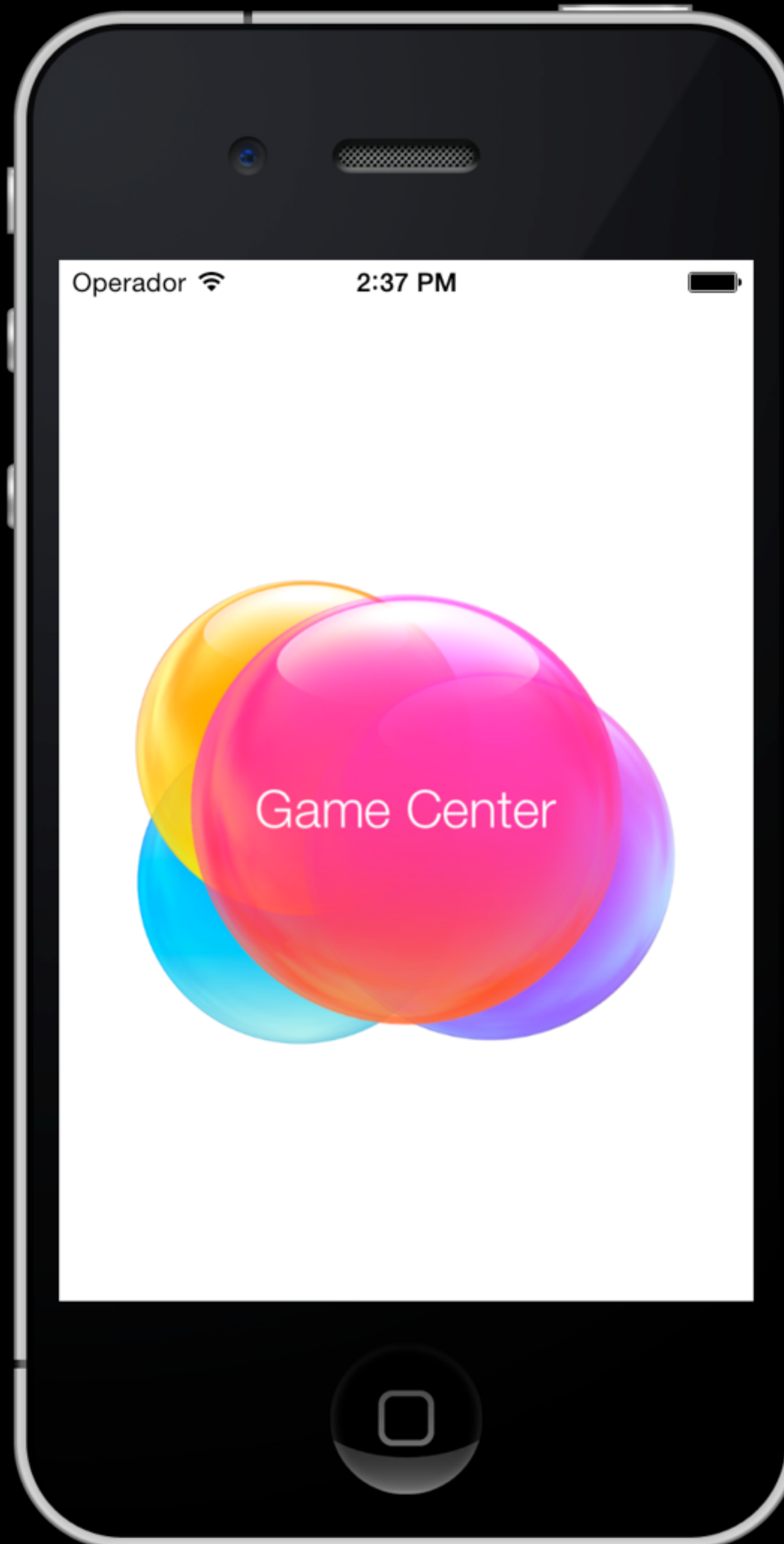
Group Achievements

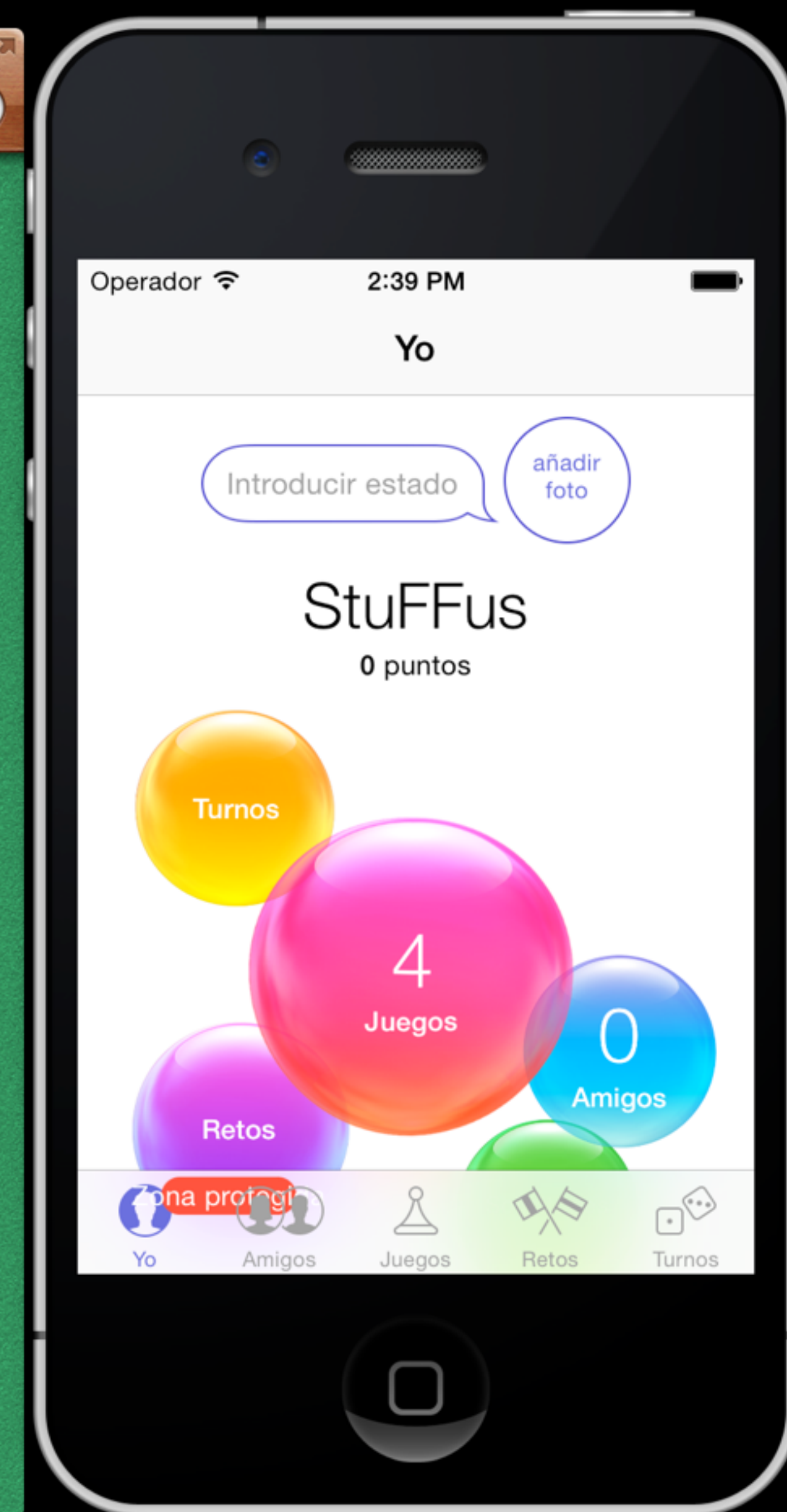
An achievement is a distinction that a player earns for reaching a milestone in your app. Once an achievement has gone live for any version of your app,

Add Achievement

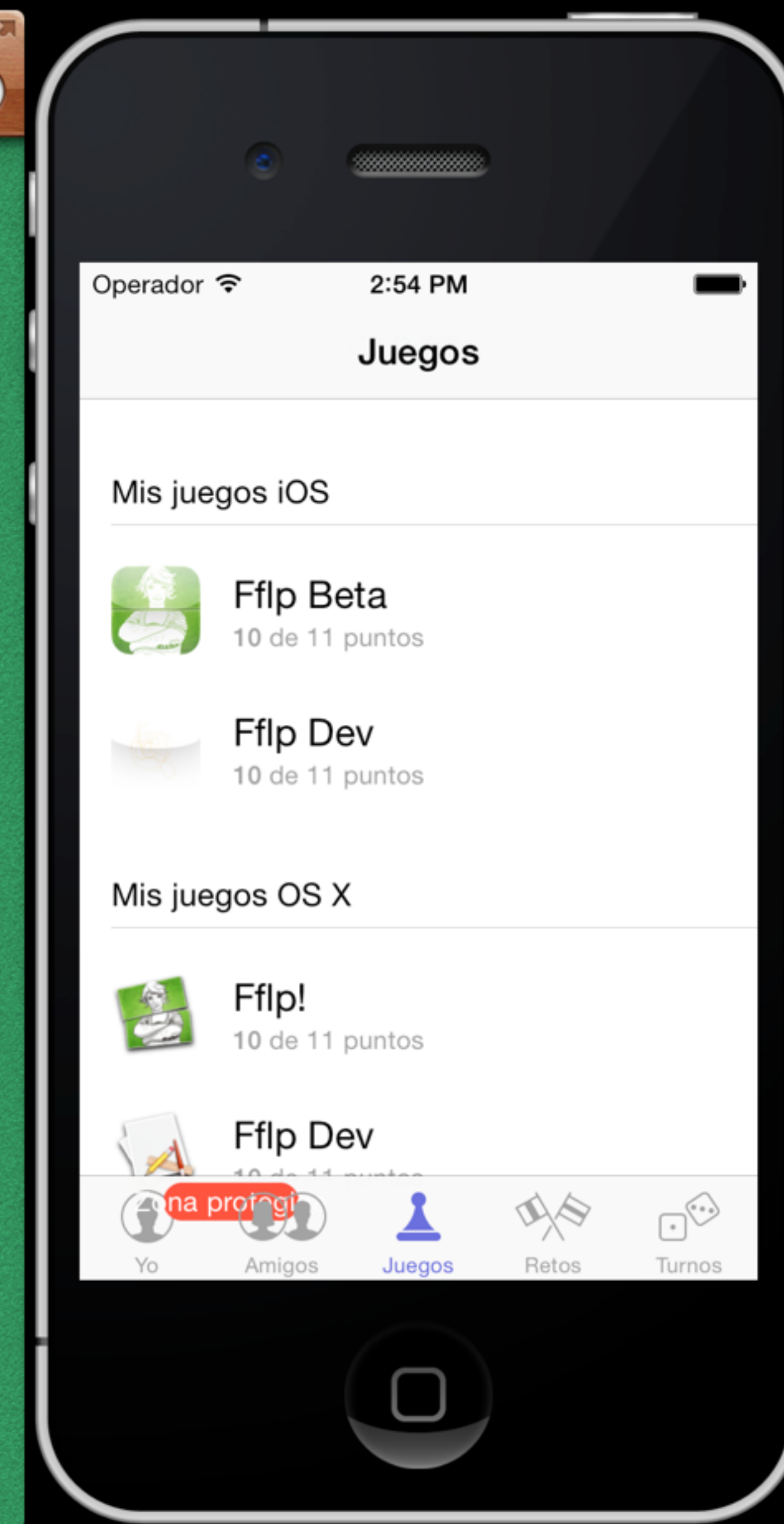
2 Achievements

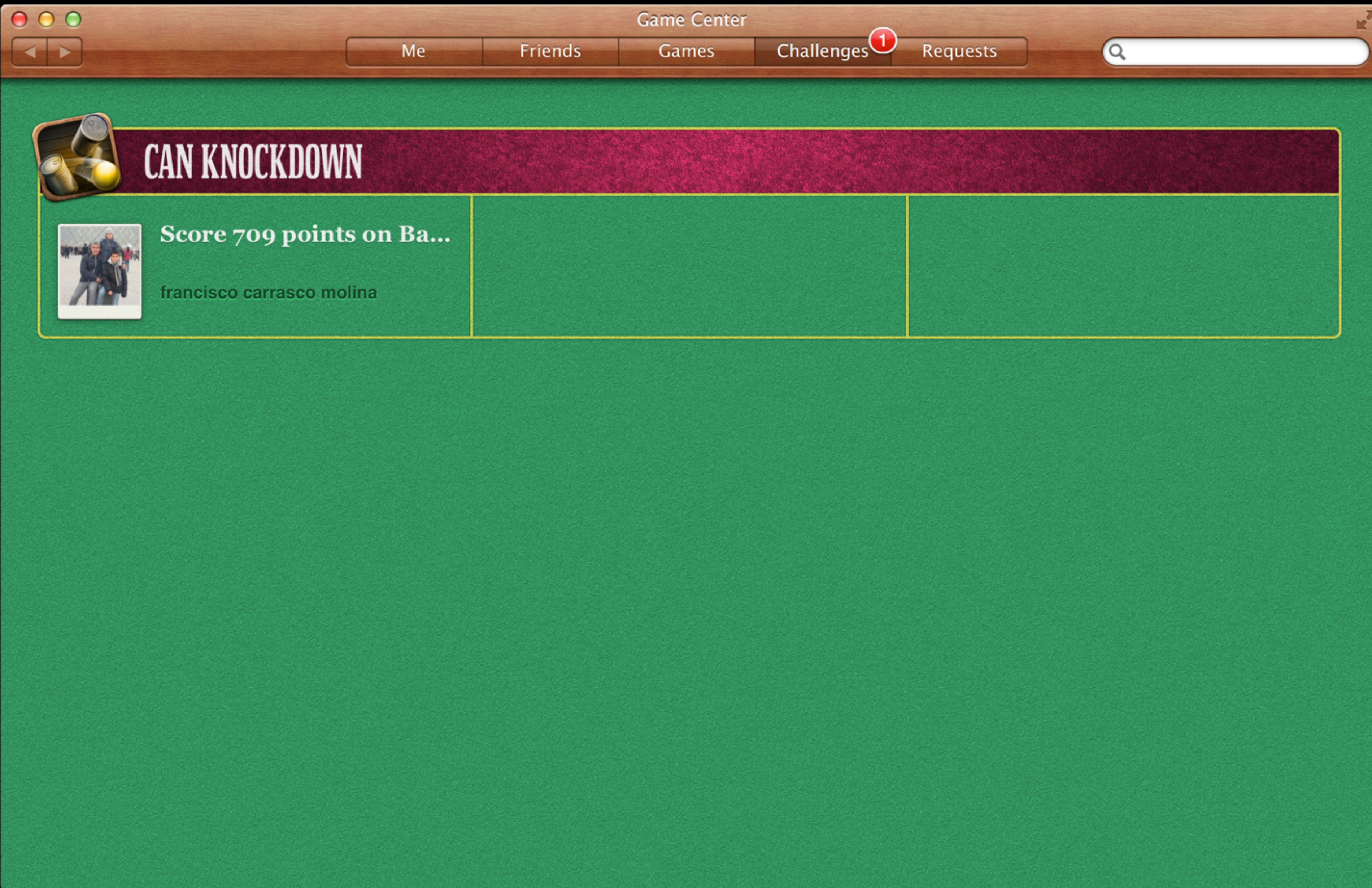
	Reference Name	Achievement ID
☰	SHARES	grp.shares

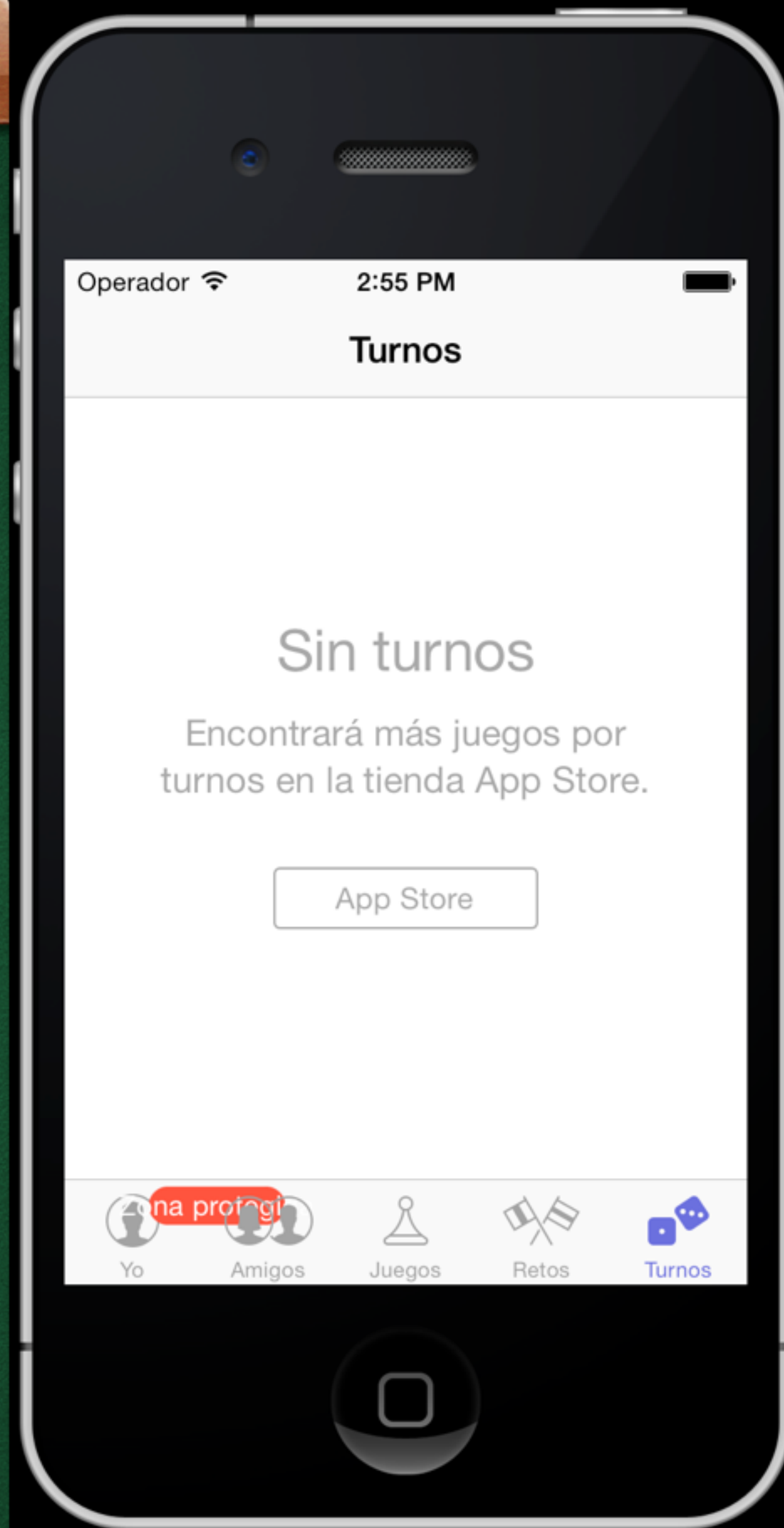
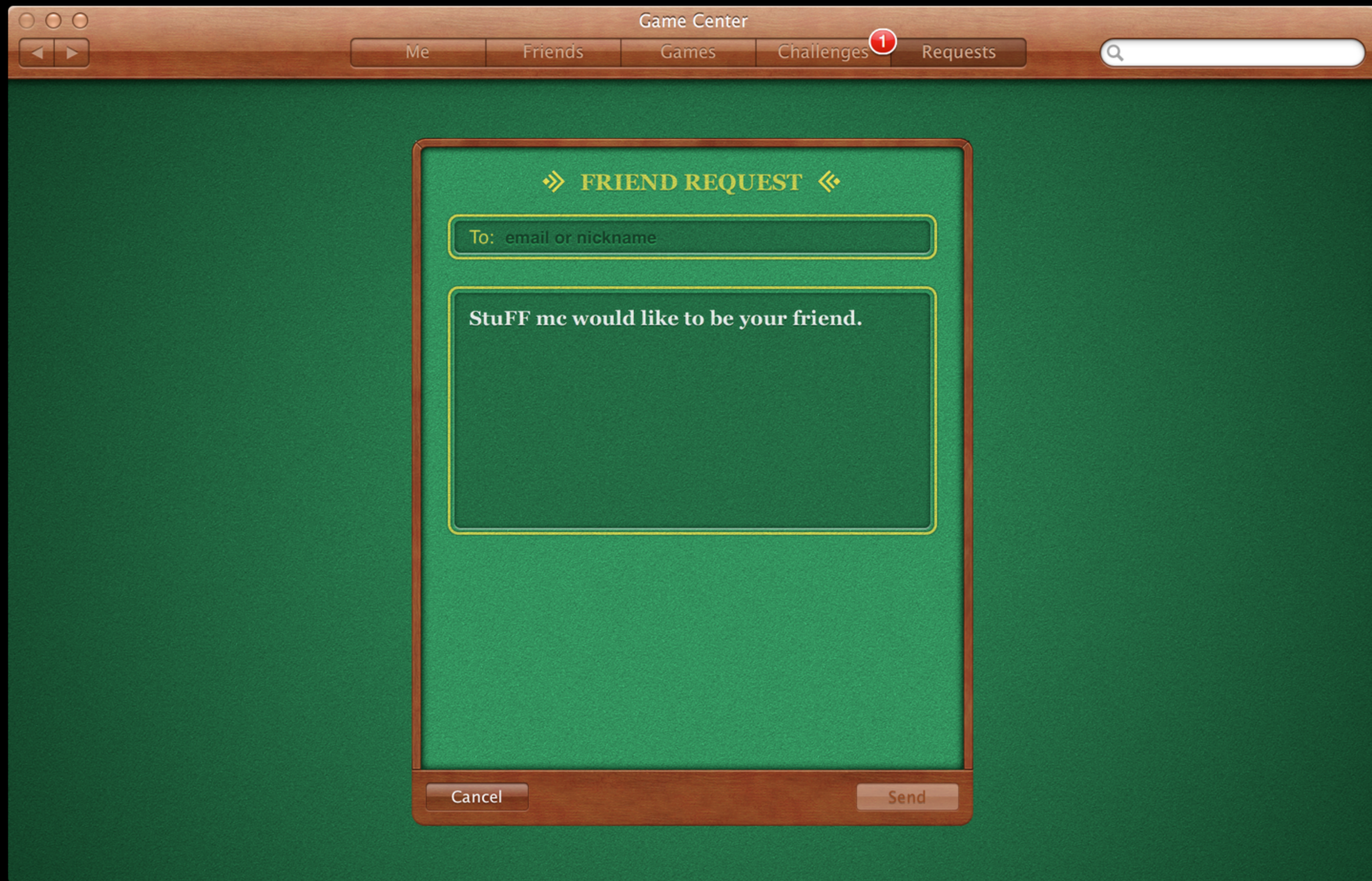












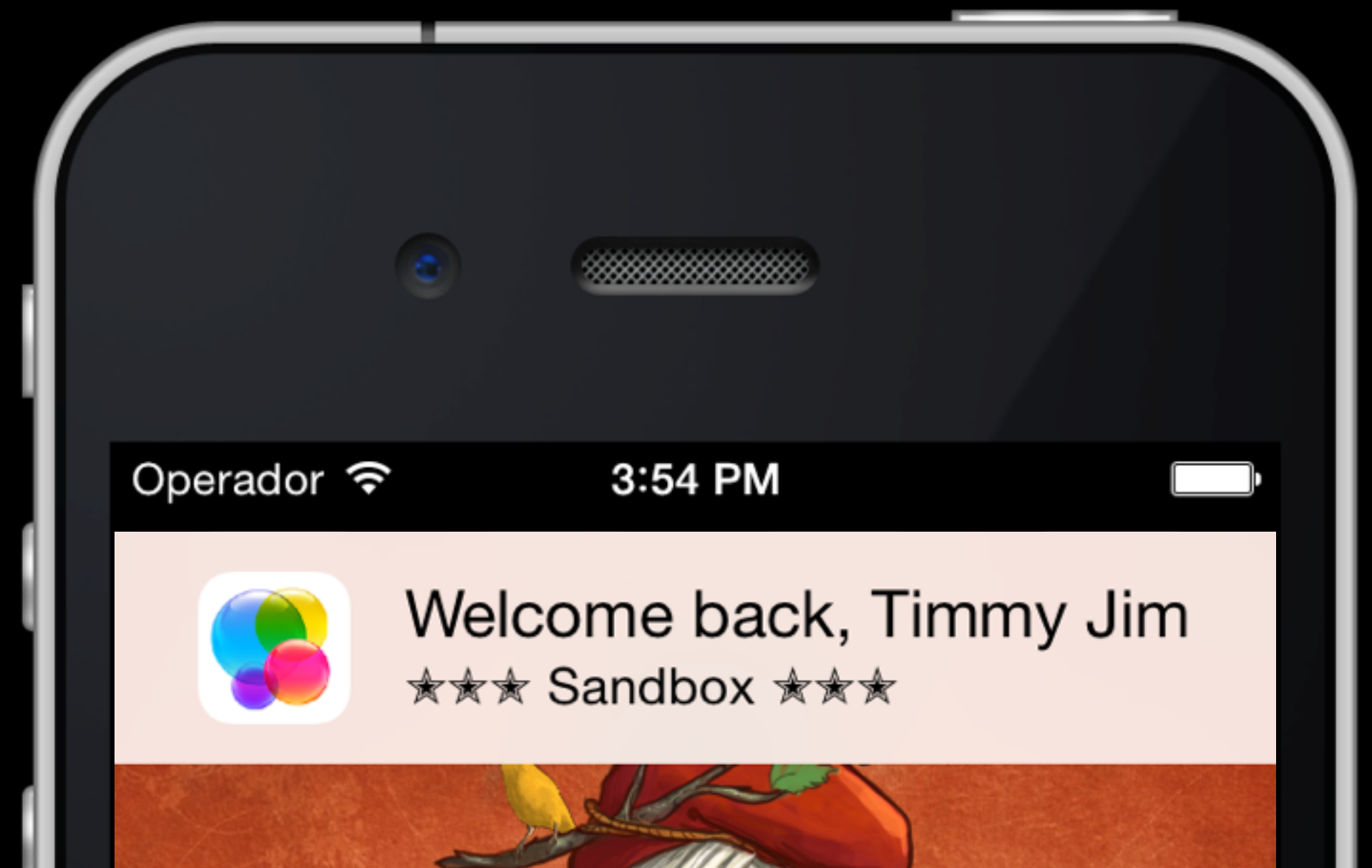
GAME CENTER — BANNERS

```
@interface GKAchievement : NSObject <NSCoding>
```

```
@property(assign, NS_NONATOMIC_IOSONLY) BOOL showsCompletionBanner  
__OSX_AVAILABLE_STARTING(__MAC_10_8,__IPHONE_5_0);  
// A banner will be momentarily displayed after reporting a completed achievement
```

```
@interface GKNotificationBanner : NSObject
```

```
+ (void)showBannerWithTitle:(NSString *)title message:(NSString *)message  
    duration:(NSTimeInterval)duration completionHandler:(void(^)(void))completionHandler  
__OSX_AVAILABLE_STARTING(__MAC_10_8,__IPHONE_6_0);
```



GAME CENTER — REPORT ACHIEVEMENT

```
GKAchievement *achievement = [[GKAchievement alloc] initWithIdentifier:identifier];
achievement.percentComplete = percent < 100 ? percent : 100; // > 100 = crash!
achievement.showsCompletionBanner = YES;
[GKAchievement reportAchievements:@[achievement]
    completionHandler:^(NSError *error) {
        if (error) {
            ...
        };
    }
];
```


SHOW LEADERBOARD

```
- (IBAction)showLeaderboard:(id)sender {
    GKGameCenterViewController *gameCenterController =
    [GKGameCenterViewController new];
    if (gameCenterController)
    {
        gameCenterController.gameCenterDelegate = self;
#ifdef TARGET_IOS
        [(UIViewController*)_rootVC presentViewController:gameCenterController
                                                    animated:YES completion:nil];
#else
        GKDialogController *sdc = [GKDialogController sharedDialogController];
        sdc.parentWindow = ((NSViewController*)_rootVC).view.window;
        [sdc presentViewController: gameCenterController];
#endif
    }
}
```


SHOW GAME CENTER PROFILE

```
- (IBAction)openGameCenterProfile:(id)sender {  
    #if !TARGET_IOS  
        [[NSWorkspace sharedWorkspace] openURL:  
         [NSURL URLWithString:@"gamecenter:me"]];  
    #endif  
}
```

IASKOpenURLSpecifier — gamecenter:me

<http://inappsettingskit.com>



GAME CENTER — A WARNING.

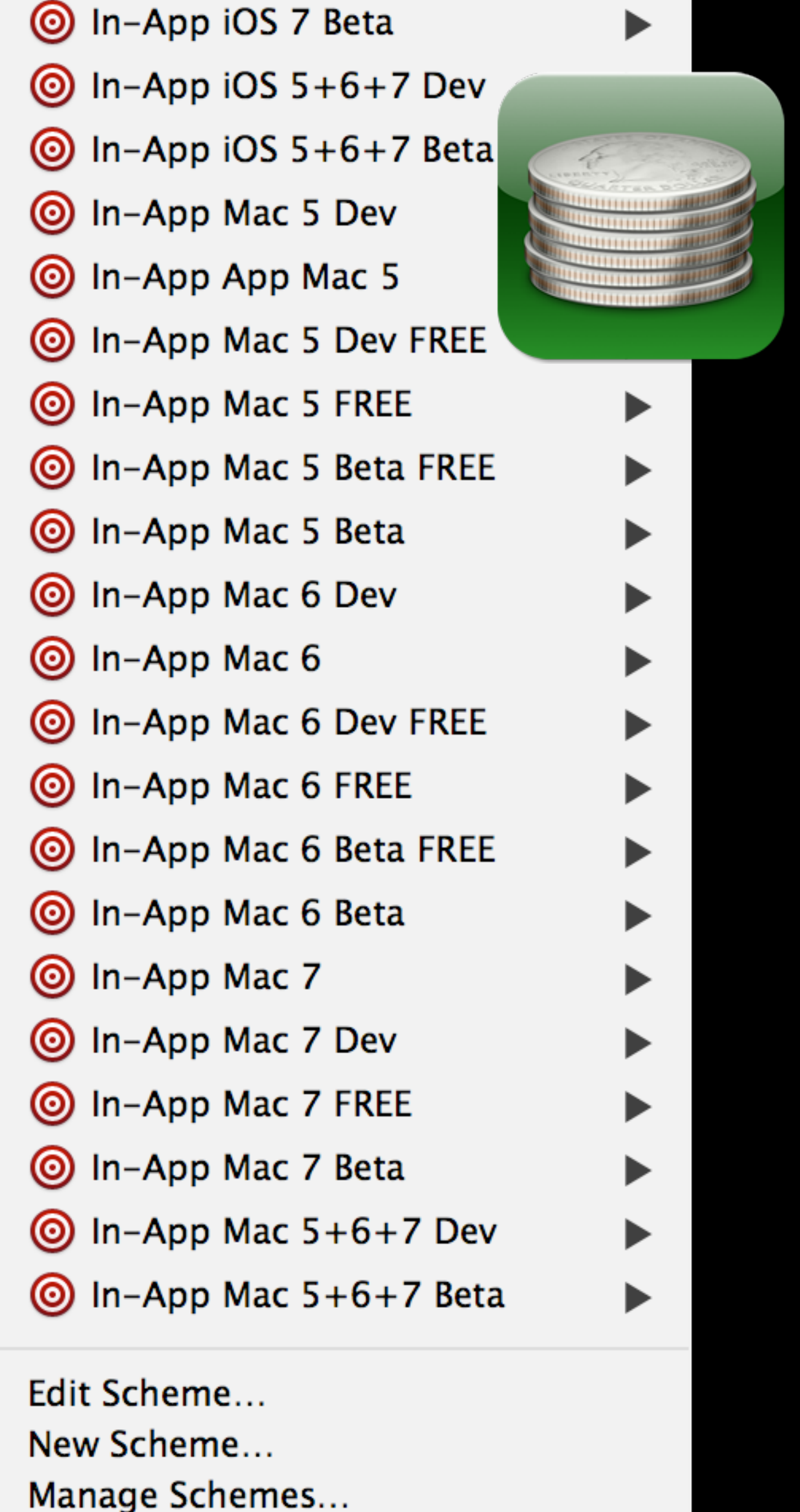


We found that your app **uses Game Center in a non-standard manner**, which is not in compliance with the App Store Review Guidelines. The intended use of Game Center is to **complement game apps or game functionality** within an app. However, we noticed that **your app does not contain any game play** or game features.

It would be appropriate to modify your app to **either remove Game Center** functionality from your binary **or add game functionality**.

ITUNES CONNECT

- In App Purchase: You need to duplicate
 - Fflp! characters: if you buy it on iOS, you have to pay again on Mac
 - Imagine iOS Kids, iOS Non Kids, Mac OS, ...
- In Xcode/Application Loader, multiple uploads!
- Solution? Use a Game Center achievement!



IN APP PURCHASE



- January 26, 2012: Max Stottrop: "In-App-Purchase" (Slides)
 - "StoreFront" link not existing anymore
 - \geq iOS 7 — In App Purchase in Receipt, like MAS
- All Code (except UI!) is in **Common/FLPStore.m**


```
{
1599 = <32716060 1be9cd79 5e24309a cdc8db3>;
```

```
1595 = "biz.pomcast.fflp.ios.beta";
```

```
1630 = <0c03312e 30>;
```

```
1625 = (
    {
```

```
5016 = "";
```

```
5008 = "";
```

```
5004 = "2014-03-19T18:08:31Z";
```

```
5002 = <0c103130 30303030 30313035 30353433 3133>;
```

```
5000 = "2014-03-23T13:00:19Z";
```

```
4998 = <0c103130 30303030 30313035 30353433 3133>;
```

```
4996 = <0c1c6269 7a2e706f 6d636173 742e6666 6c702e69 6f732e62 6574612e 3037>;
```

```
5013 = 0;
```

```
5003 = "2014-03-19 17:08:31 +0000";
```

```
5001 = 1000000105054313;
```

```
4999 = "2014-03-23 12:00:19 +0000";
```

```
4997 = 1000000105054313;
```

```
4995 = "biz.pomcast.fflp.ios.beta.07";
```

```
4993 = 1;
    }
```

```
);
```

```
1596 = <0c196269 7a2e706f 6d636173 742e6666 6c702e69 6f732e62 657461>;
```

```
1601 = <c2ec2456 75a70e65 d21bbb96 74740bca c234ddb6>;
```

```
1597 = 78;
```

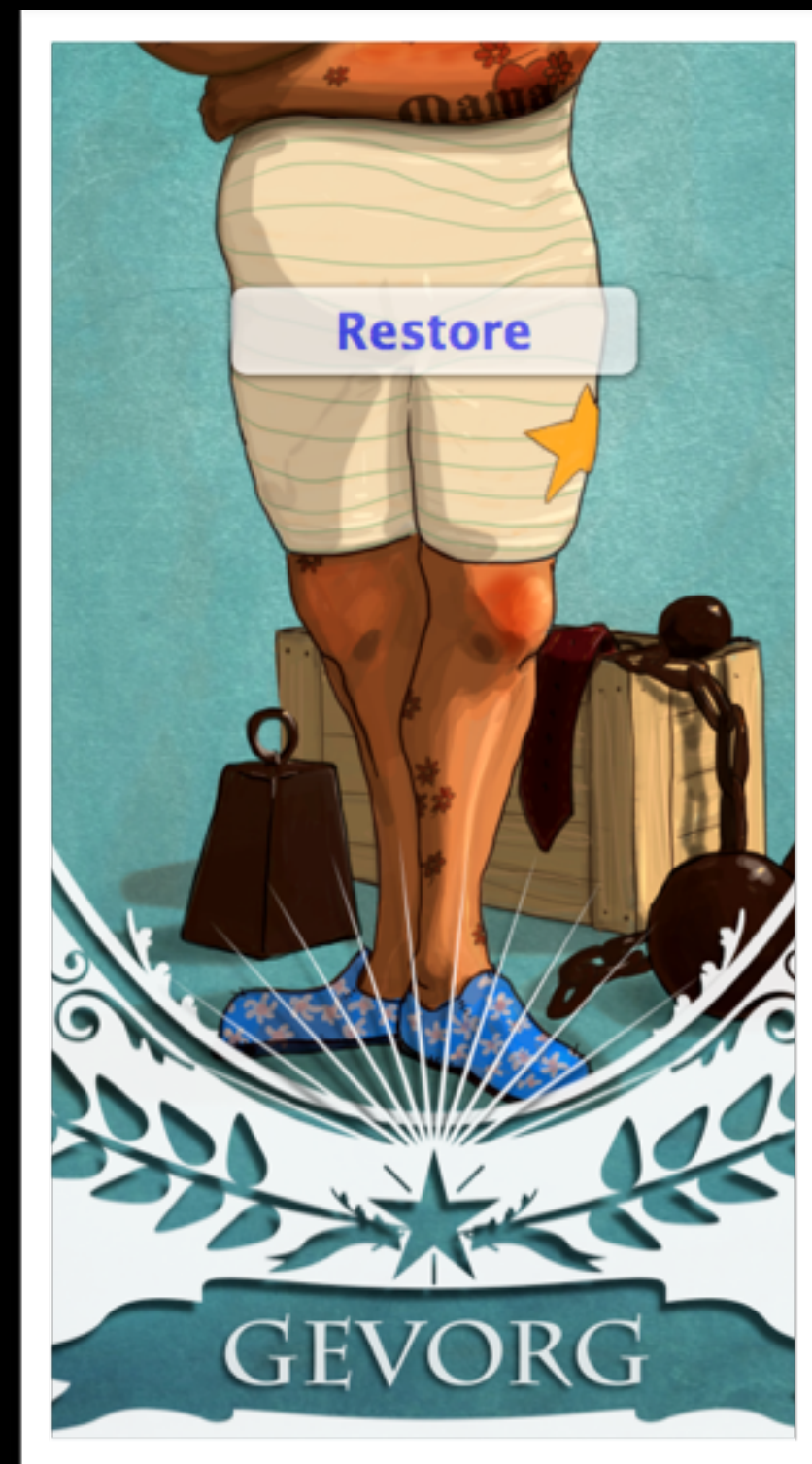
```
1598 = <0c023738>;
```

```
1629 = "1.0";
}
```

iOS 7

10.6.8

RESTORE VS RESTORE ALL



One IAP at a time? Nope :(



WHO'S YOUR DADDY?

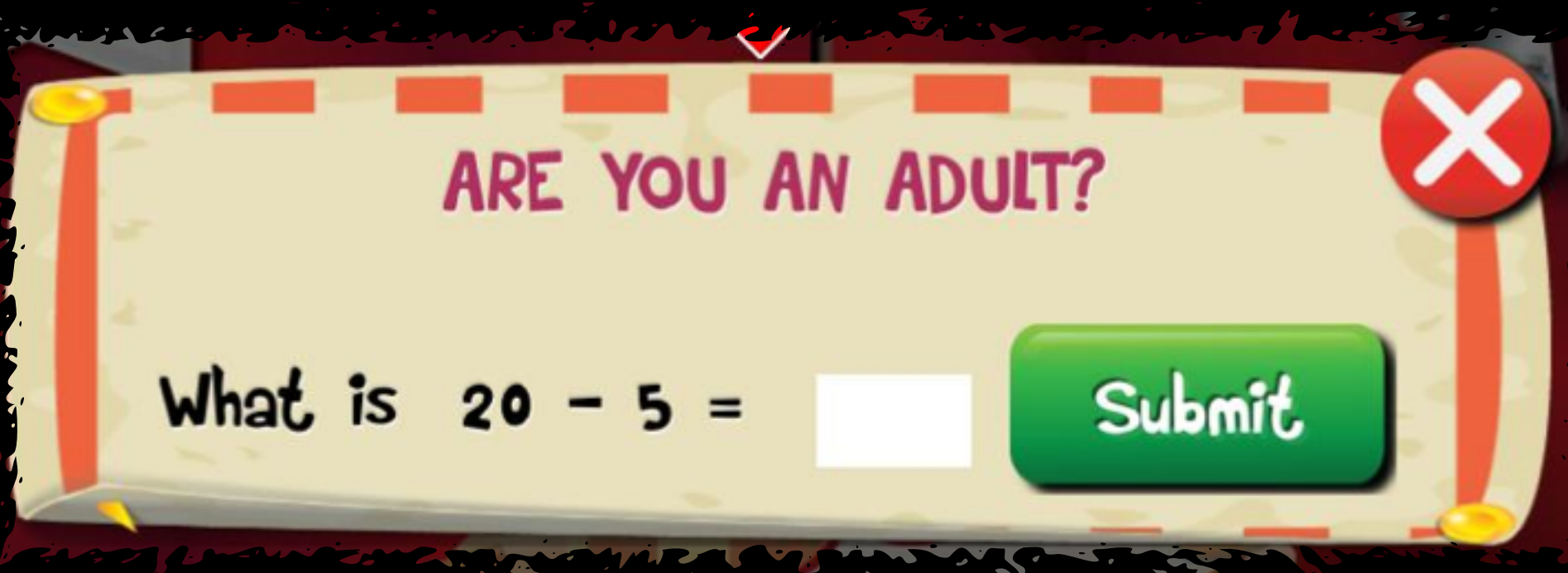
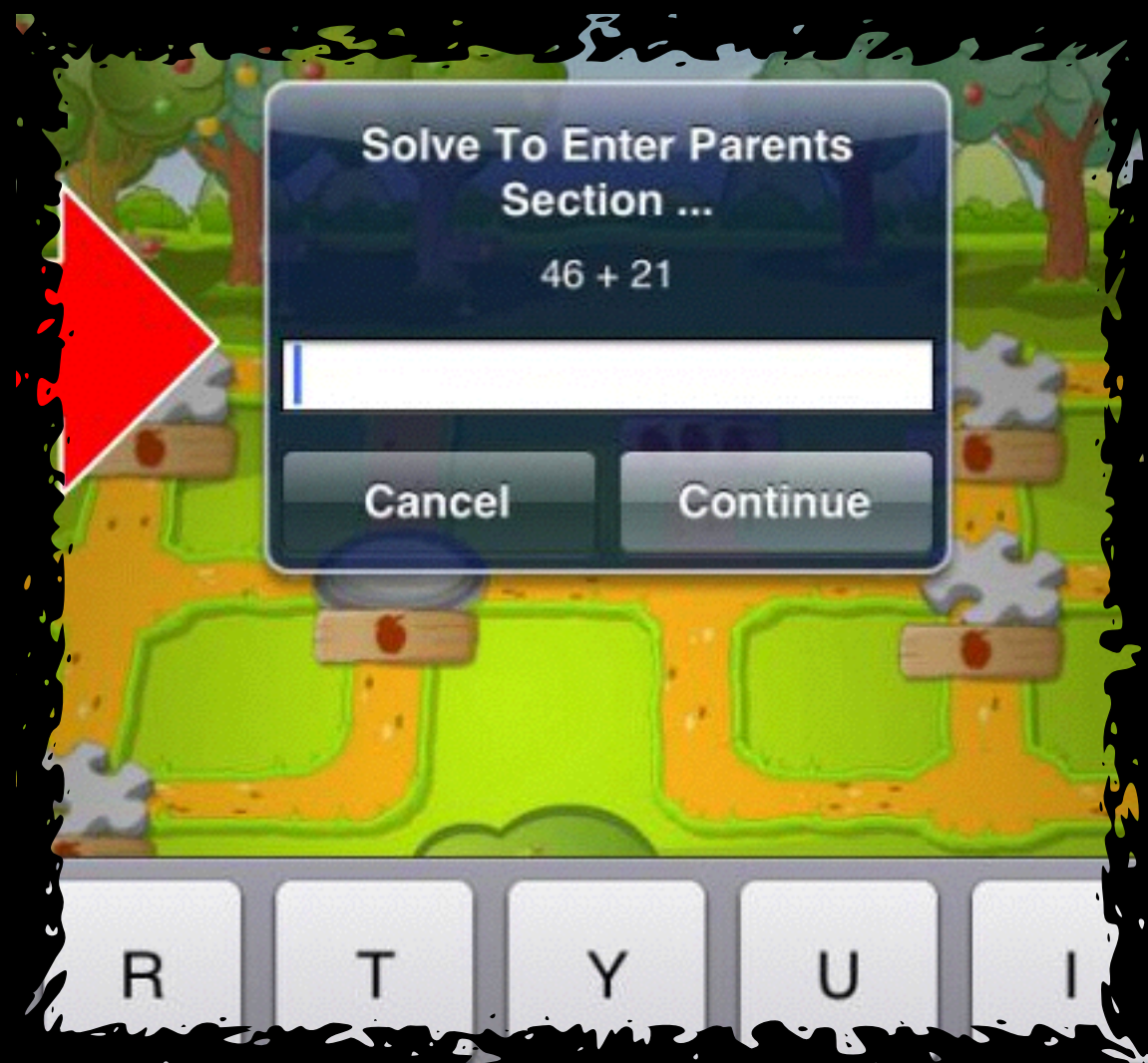


Please update your app to require **parental permission** or incorporate a **parental gate** before the user can leave the app or engage in commerce, and ensure that the parental gate cannot be disabled.

Alternatively, you may revise your app to remove these features.

PARENTAL GATE (iOS)

MomsWithApps

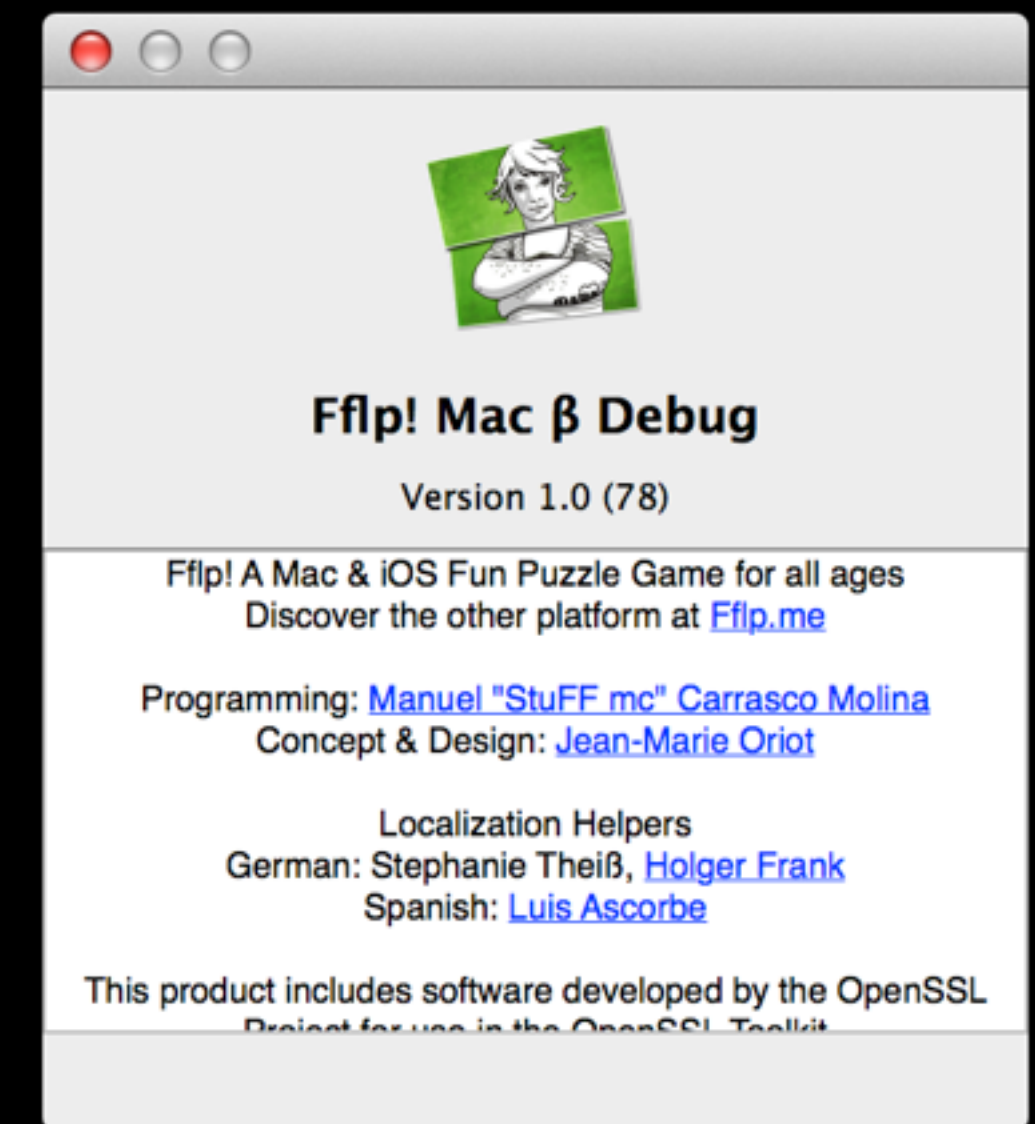


NOTIFICATIONS

- The received/sent payload is the same on iOS/Mac
 - Process that in the “Common” part
- Server-Side it's the same as well, except for Certificates
 - iOS: many SaaS
 - Mac: Helios — which also work for iOS.
 - *“Problematic (dead?) since it belongs to Heroku”*

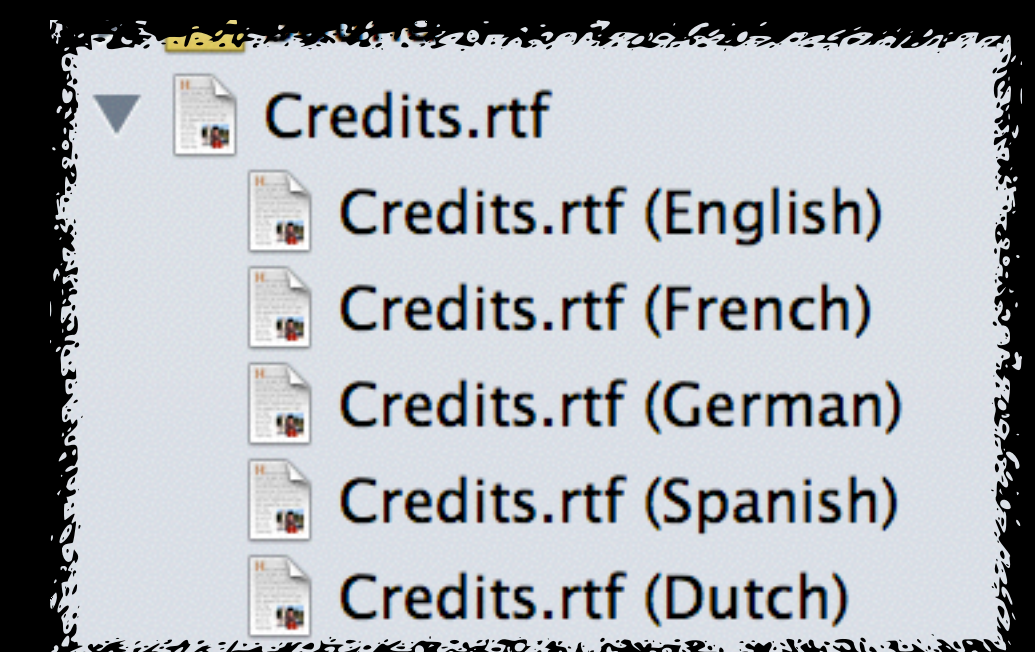


USE THE SAME CREDITS.RTF



@implementation FLIAboutVC

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    NSURL *url = [[NSBundle mainBundle] URLForResource:@"Credits" withExtension:@"rtf"];
    NSData *data = [NSData dataWithContentsOfURL:url];
    NSError *error = nil;
    NSMutableAttributedString *string = [[NSMutableAttributedString alloc]
initWithData:data options:nil documentAttributes:nil error:&error];
    [string setAttributes:@{NSFontAttributeName:[UIFont systemFontOfSize:18]}
range:NSMakeRange(0, string.length)];
    if (error) {
        NSLogV(error);
    }
    _textView.attributedText = string;
}
```



THE GOOD AND THE BAD

- Same code = Not Half the work but
 - Twice the bugs
 - But Twice as fast fixing
 - Example: Common/Models/FLPStore.m

```
BOOL #gotofail = [foo isKindOfClass:[NSNumber class]]  
                && [foo isKindOfClass:[NSArray class]]
```


WHAT I'VE LEARNED

- Avoid StoreKit
- You might wanna avoid Game Center
- The Sandbox is a nightmare many times...
- Every technology needs to be used once to know you want to avoid it the next time — too bad though, since GC & IAP could be a great piece of technology!

ONE MORE THING...

ONE MORE THING APPLE BROKE... (DEMO)

I'm coming to the same conclusion, that provisioning profile selection is broken for Mac apps in Xcode 5.1. I haven't found a combination of build settings yet that will add the aps-environment entitlement to the app.

Developer Technical Support

I have found one workflow that at least allows you to run the app from Xcode.....

THANKS!

See you in Cologne! Will you show me your big number? :-)

