

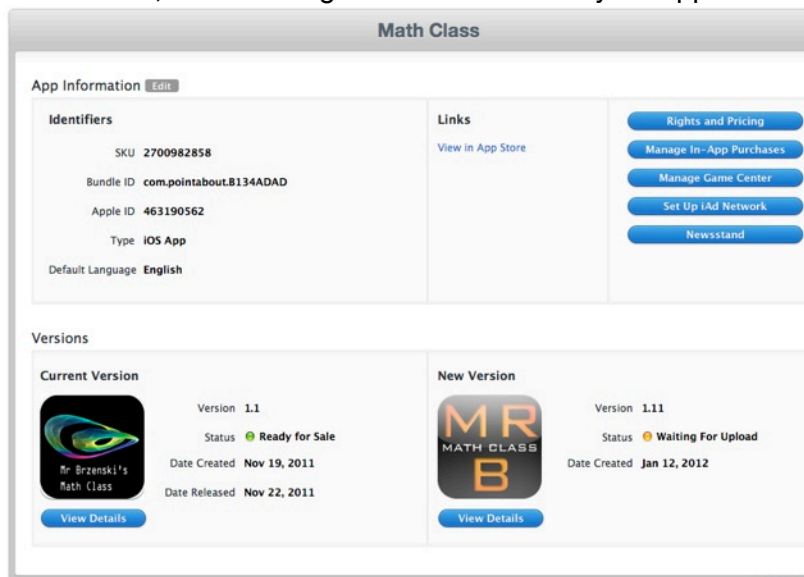
Integrating Achievements in Buzztouch v1.5*

*This assumes you have gone through MGoBlue's walkthrough on how to integrate Game Center. If you have not, check out http://www.jc-evans.com/uploads/Game_Center_Tutorial.pdf

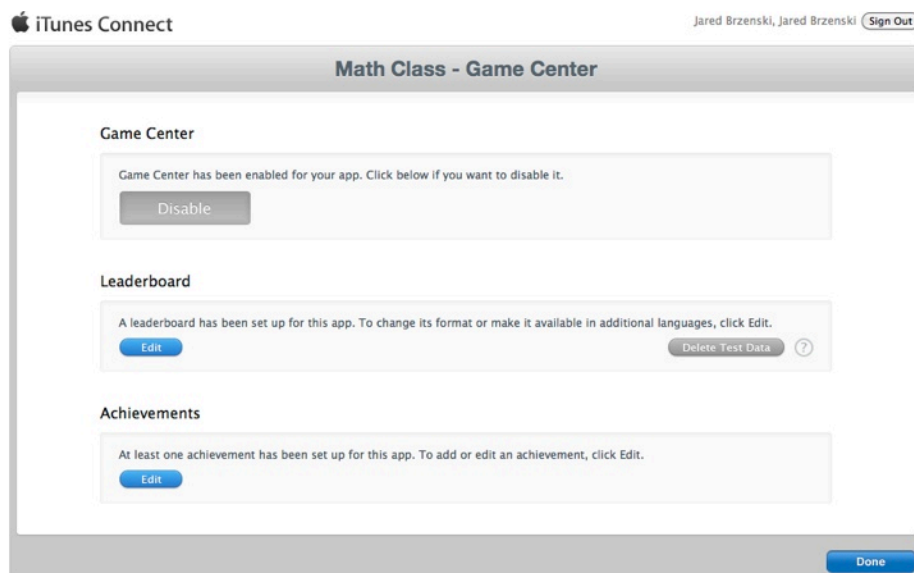
Step 1: Set up an Achievement in iTunesConnect

(You have followed MGoBlue's tutorial and have an app that connects to Game Center and can send a score that shows up on a leader board? This will not work without that much functionality)

In iTunesConnect, click "Manage Game Center" on your apps info screen.



Then, under achievements, click the edit or add button



Add New Achievement **Math Class - Achievements**

Achievements

An achievement is a distinction that a player earns for reaching a milestone, or performing an action, defined by you and programmed into your app. Once an achievement has gone live for any version of your app, it cannot be removed.

834 Points Remaining Search Achievements

	Achievement Reference Name	Achievement ID	Points	
☰ 1	Perfect Score	PerfectScore	10	Delete
☰ 2	On The Dot	OnTheDot	20	Delete
☰ 3	Slow and Steady	SlowSteady	10	Delete
☰ 4	You are Fast!	Fast	20	Delete
☰ 5	The Fastest	Fastest	25	Delete
☰ 6	Lame!	Lame	1	Delete
☰ 7	999	nineninenine	10	Delete
☰ 8	What?!?	What	50	Delete
☰ 9	#2	NumberTwo	10	Delete
☰ 10	Horseshoes and Handgrenades	Horseshoes	10	Delete

[Go Back](#)

Up in the upper left corner, click the “Add New Achievement” button. Here on this screen, you can see I have already added 10 achievements.

When you click the “Add New Achievement” button, you get to select reference name, achievement ID, hidden, and point value.

Math Class - Edit Achievement

Achievement

Achievement Reference Name ?

Achievement ID ?


Hidden Yes No ?

Point Value ?
834 of 1000 Points Remaining

Achievement Localization

These are the languages in which your achievements will be available for display in Game Center. You must add at least one language.

[Add Language](#)

Image	Language	Title	
	English	Perfect Score	Delete

[Cancel](#) [Save](#)

Achievement Reference Name - Whatever you want, the plain text of your achievement

Achievement ID - what xcode uses to identify your achievement. Remember this one.

Hidden - Does it show up on the achievement listing in Game Center.

Point Value - Yeah, can't be more than 200. Most points for an app is 1000.

Image - You need a 512x512 image for each achievement.

Add Some Code

There are three areas we will be adding code. BT_screen_quiz.m, Localizable.strings, and AppSpecificValues.h

Step 2: IN - AppSpecificValues.h

Here you add the names of the achievements you set up in iTunesConnect. Use the ID not the regular name. Each has `#define kAchievementName @"Name"`, where Name is the ID from Game Center. Note the PerfectScore achievement below and you get what I mean

```
*/
//These constants are defined in iTunesConnect, and will function as long
// as this sample is built/run with the existing bundle identifier
// (com.apple.ledts.GKTapper). If you want to experiment with this sample and
// iTunesConnect, you'll need to define you're own bundle ID and iTunes
// Connect configurations. This sample uses reverse DNS for Leaderboards
// and Achievement IDs, but this is not a requirement. Any string that
// iTunes Connect will accept will work fine.

//Leaderboard Category IDs
#define kLeaderboardID @"MathClass"

#define kAchievementFast @"Fast"
#define kAchievementSlowSteady @"SlowSteady"
#define kAchievementPerfectScore @"PerfectScore"
#define kAchievementFastest @"Fastest"
#define kAchievementOnTheDot @"OnTheDot"
#define kAchievementLame @"Lame"
#define kAchievementnineninenine @"nineninenine"
#define kAchievementWhat @"What"
#define kAchievementNumberTwo @"NumberTwo"
#define kAchievementHorseshoes @"Horseshoes"
```

And that is it for AppSpecificValues.h

Step 3: IN - BT_screen.quiz.m

(some of this code might be redundant, I dont know, I'm not an Apple programmer)

```
/* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
 * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
 * OF SUCH DAMAGE.
 */

#import <UIKit/UIKit.h>
#import <Foundation/Foundation.h>
#import <QuartzCore/QuartzCore.h>
#import "JSON.h"
#import "mathclass_appDelegate.h"
#import "BT_fileManager.h"
#import "BT_photo.h"
#import "BT_color.h"
#import "BT_imageTools.h"
#import "BT_viewUtilities.h"
#import "BT_downloader.h"
#import "BT_item.h"
#import "BT_debugger.h"
#import "BT_strings.h"
#import "BT_viewControllerManager.h"
#import "AppSpecificValues.h"
#import "BT_screen_quiz.h"
#import "GameCenterManager.h"
#import "GKAchievementHandler.h"
#import "GKAchievementNotification.h"

@implementation BT_screen_quiz
@synthesize saveAsFileName, downloader, didInit;
```

In the beginning, make sure GameCenterManager.h is there. (The other two are for notifications, ignore).

```
return;
[answerButton4 setTintColor:quizButtonColorIncorrect];
}
}

//correct or incorrect?
if([tmpAnswer isEqualToString:answer]){
    //answer was correct...
    //do we play sound effect?
    if([BT_strings getJsonPropertyValue:self.screenData.jsonVars:@"quizSoundEffectFileNameCorrect:@" length] > 3){
        [appDelegate playSoundEffect:[BT_strings getJsonPropertyValue:self.screenData.jsonVars:@"quizSoundEffectFileNameCorrect:@"]];
    }

    //flags / points...
    numberCorrect = [numberCorrect + 1];
    streak = [streak + 1];
    [self checkAchievements];

    //determine how many points we earned for this answer
    int pointsPerRight = quizPointsPerAnswer;

    //assume we are not in bonus..
    UIImage *tmpBonusIng = [UIImage imageNamed:@"blank.png"];

    //bonusImage for right "in a row"
    if(streak > 9){
        pointsPerRight = (pointsPerRight * 10);
        tmpBonusIng = [UIImage imageNamed:@"10x.png"];
    }else if (streak > 8){
        pointsPerRight = (pointsPerRight * 9);
        tmpBonusIng = [UIImage imageNamed:@"9x.png"];
    }
}
```

We are going to put [self checkAchievement] in three places. You only need the last one, really, but this first one would be a good place to find an incremental achievement (if you set one up).

First one goes just below //flags / points after number correct has been incremented

The next one goes in -(void)showIncorrect, in the section //end after delay. I don't remember why I put this here, might just be extraneous. It gets called at the end of every quiz.

```
//show incorrect
-(void)showIncorrect{
    [BT_debugger showIt:self:@"showIncorrect"];

    //appDelegate
    mathclass_appDelegate *appDelegate = (mathclass_appDelegate *)[UIApplication sharedApplication] delegate;

    //change image
    [currentPointsImageView setImage:[UIImage imageNamed:@"wrong.png"]];

    //play possible sound effect...
    if([quizSoundEffectFileNameIncorrect length] > 3){
        [appDelegate playSoundEffect:quizSoundEffectFileNameIncorrect];
    }

    //figure out points...
    [self transitionPoints];

    //move to next question or end?
    if([currentQuestionIndex >= quizNumberOfQuestions] || (currentQuestionIndex + 1 > [self.quizQuestions count])) {

        //end after delay
        [self setQuizDidEnd:1];
        [self performSelector:@selector(quizEnded) withObject:nil afterDelay:quizQuestionDelay];
        [self checkAchievements];
    }else{

        //go to next question after delay
        [self performSelector:@selector(transitionQuestion) withObject:nil afterDelay:quizQuestionDelay];
    }
}
```

And the final one here, in `-(void)quizEnded`

```
//quizEnded
-(void)quizEnded{
    [BT_debugger showIt:self:@"quizEnded"];

    //ignore this if the quiz never ended (we never started a quiz)
    if(self.quizDidEnd > 0){

        //AppDelegate
        mathclass_appDelegate *appDelegate = (mathclass_appDelegate *)[UIApplication sharedApplication] delegate];

        //clear question and timer label
        [questionText setText:@""];
        [quizTimeLabel setText:@""];
        [self checkAchievements];
        //show the start button again
        [startButtonBox setAlpha:1.0];
        [startButton setHidden:FALSE];

        //show question image
        [questionImageView setAlpha:1.0];
    }
}
```

For the actual ***checkAchievements*** function, I put it right before `-(void)submitScore` and `-(void)showScore` from the Game Center tutorial.

```
//submit score for Game Leaderboard
//Achievements -----Achievements-----
-(void)checkAchievements
{
    NSString* identifier= NULL;
    double percentComplete= 0;

    //Perfect Score Achievement
    if(numberCorrect == 10)
    {
        GKAchievement *achievement= [[[GKAchievement alloc] initWithIdentifier:@"PerfectScore"] autorelease];
        achievement.percentComplete = 100.0;
        if(achievement!= NULL)
        {
            [achievement reportAchievementWithCompletionHandler:^(NSError *error){
                if(error != nil){
                    NSLog(@"Perfect Achievement failed");
                } else {
                    NSLog(@"Achievement success");
                }
            }];
        }
    }
}

//Fastest Achievement
if(totalSeconds <= 45 && numberCorrect == 10)
{
    GKAchievement *achievement= [[[GKAchievement alloc] initWithIdentifier:@"Fastest"] autorelease];
    achievement.percentComplete = 100.0;
    if(achievement!= NULL)
    {
        [achievement reportAchievementWithCompletionHandler:^(NSError *error){
            if(error != nil){
                NSLog(@"Fastest Achievement failed");
            } else {
                NSLog(@"Achievement success");
            }
        }];
    }
}
}
```

This is the actual code

```
-(void)checkAchievements
{
    NSString* identifier= NULL;
    double percentComplete= 0;

    //Perfect Score Achievement
    if(numberCorrect == 10)
    {
        GKAchievement *achievement= [[[GKAchievement alloc]
initWithIdentifier:@"PerfectScore"] autorelease];
        achievement.percentComplete = 100.0;
        if(achievement!= NULL)
        {
            [achievement reportAchievementWithCompletionHandler: ^(NSError *error){
                if(error != nil){
                    NSLog(@"Perfect Achievement failed");
                } else {
                    NSLog(@"Perfect Achievement success");
                }
            }];
        }
    }

    if(identifier!= NULL)
    {
        [self.gameCenterManager submitAchievement: identifier percentComplete:
percentComplete];
    }
}
```

You can link as many as you want, just don't put the last parenthesis.

Lets look at each function.

The first "if(something)". I used numberCorrect, totalSeconds, and totalPoints in my functions because they are things the app keeps track of without my help.

You can set up conditionals from there. In the screenshot above, my second achievement "fastest" has ten correct with time less than 45 seconds.

```
if(numberCorrect == 10 && totalSeconds <= 45)
```

achievement.percentComplete=100.0 can be set to some other incremental value, so you can show that some has achieved 25% of an achievement or 50%, and that will show in Game Center as a circle partially filled.

```
initWithIdentifier:@"PerfectScore" - Here I put the ID name of my achievement.
```

```

NSLog(@"Perfect Achievement failed");
    }
else {
    NSLog(@" Perfect Achievement success");
}

```

This part was handy so I could look in the debugger and see if my achievement was passed to Game Center. Thats all this does.

These last final parts of code add the button at the end that asks you if you want to see the achievements for the game.

```

//show scoreboard
-(void)showScoreboard{
    GKLeaderboardViewController *leaderboardController = [[GKLeaderboardViewController alloc] init];
    if (leaderboardController != NULL)
    {
        leaderboardController.category = self.currentLeaderBoard;
        leaderboardController.timeScope = GKLeaderboardTimeScopeWeek;
        leaderboardController.achievementDelegate = self;
        [self presentViewController:leaderboardController animated:YES];
    }
}

//show achievements
-(void) showAchievements {
    GKAchievementViewController *achievements = [[GKAchievementViewController alloc] init];
    if (achievements != NULL)
    {
        achievements.achievementDelegate = self; [self presentViewController: achievements animated: YES];
    }
}

//show quiz reward screen
-(void)showQuizRewardScreen{
    [BT_debugger showIt:self:[NSString stringWithFormat:@"showQuizRewardScreen %@", @""]];

    //AppDelegate
    mathclass_appDelegate *appDelegate = (mathclass_appDelegate *)([UIApplication sharedApplication] delegate);

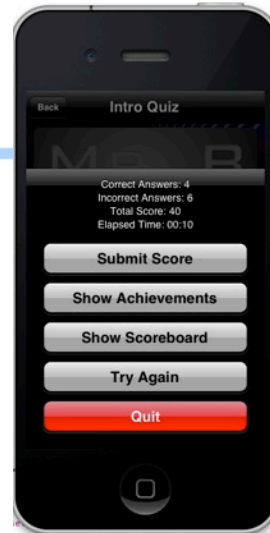
    //get possible itemId of the screen to load
    NSString *loadScreenItemId = [BT_strings getJsonPropertyValue:screenData.jsonVars:@"QuizRewardScreenItemId:@""];

    //get possible nickname of the screen to load
    NSString *loadScreenNickname = [BT_strings getJsonPropertyValue:screenData.jsonVars:@"QuizRewardScreenNickname:@""];

    //bail if load screen = "none"
    if([loadScreenItemId isEqualToString:@"none"]){
        return;
    }

    //check for loadScreenWithItemId THEN loadScreenWithNickname THEN loadScreenObject
    BT_item *screenObjectToLoad = nil;
    if([loadScreenItemId length] > 1){
        screenObjectToLoad = [appDelegate.rootApp getScreenDataById:loadScreenItemId];
    }else{
        if([loadScreenNickname length] > 1){

```



Just below //show scoreboard, I have a new function called showAchievements, which will be called somewhere below //show achievements

```

-(void) showAchievements {
    GKAchievementViewController *achievements = [[GKAchievementViewController alloc] init];
    if (achievements != NULL)
    {
        achievements.achievementDelegate = self; [self presentViewController: achievements animated: YES];
    }
}

```



```

////////////////////////////////////
//delegate method for action sheet clicks
-(void)actionSheet:(UIActionSheet *)actionSheet clickedButtonAtIndex:(NSInteger)buttonIndex {

    NSString *buttonTitle = [actionSheet buttonTitleAtIndex:buttonIndex];

    //quit
    if([buttonTitle isEqual:NSString(@"quit", @"Quit")]){
        [self navLeftTap];
    };

    //show reward
    if([buttonTitle isEqual:NSString(@"quizShowReward", @"Show Reward")]){
        [self showQuizRewardScreen];
    }

    //show achievements
    if([buttonTitle isEqual:NSString(@"showAchievements", @"Show Achievements")]){
        [self showAchievements];
    }

    //show continue
    if([buttonTitle isEqual:NSString(@"continue", @"Continue")]){
        [self showFinishScreen];
    }

    //submit score
    if([buttonTitle isEqual:NSString(@"quizSubmitScore", @"Submit Score")]){
        [self submitScore];
    }

    //show scoreboard
    if([buttonTitle isEqual:NSString(@"quizShowScoreboard", @"Show Scoreboard")]{
        [self showScoreboard];
    }

    //try again
    if([buttonTitle isEqual:NSString(@"quizTryAgain", @"Try Again")]{
        [self startQuiz];
    }

}

////////////////////////////////////
//text field delegate methods
-(BOOL)textFieldShouldReturn:(UITextField *)textField{
    return FALSE;
}

```

In the //delegate method for action sheets, I have added //show achievements

//show achievements

```

    if([buttonTitle isEqual:NSString(@"showAchievements", @"Show
Achievements")]){
        [self showAchievements];
    }

```

And finally, in //quiz ended, scroll down until you see “buttons”

```

//buttons for action sheet
finishedButtons = [[NSMutableArray alloc] init];

//earned reward screen
if([haveRewardScreen && earnedReward]){
    [finishedButtons addObject:NSString(@"quizShowReward", @"Show Reward")];
}

//regular finish screen
if([haveFinishScreen]){
    [finishedButtons addObject:NSString(@"continue", @"Continue")];
}

//Submit Score Button
[finishedButtons addObject:NSString(@"quizSubmitScore", @"Submit Score")];

//Show Achievements Button
[finishedButtons addObject:NSString(@"showAchievements", @"Show Achievements")];

//scoreboard button shows if we have it "on" and if a scoreboardURL is provided
if([[BT_strings valueForKey:self.screenData,jsonVars:@"showScoreboard":@"1" isEqualToString:@"1"]]{
    if([[BT_strings valueForKey:self.screenData,jsonVars:@"scoreboardURL":@""] length] > 3){
        [finishedButtons addObject:NSString(@"quizShowScoreboard", @"Show Scoreboard")];
    }
}

//try again button...
[finishedButtons addObject:NSString(@"quizTryAgain", @"Try Again")];

//action sheet
UIActionSheet *actionSheet = [[UIActionSheet alloc] initWithTitle:quizResultMessage
                        delegate:self
                        cancelButtonTitle:nil
                        destructiveButtonTitle:nil
                        otherButtonTitles:nil];

//add the buttons
for (int i = 0; i < [finishedButtons count]; i++) {
    [actionSheet addButtonWithTitle:[finishedButtons objectAtIndex:i]];
}

//add cancel button
[actionSheet addButtonWithTitle:NSString(@"quit", @"Quit")];
actionSheet.destructiveButtonIndex = [finishedButtons count];
[actionSheet setActionSheetStyle:UIActionSheetStyleBlackOpaque];

//is this a tabbed app?
//[[AppDelegate sharedInstance] isTabbedApp];

```

add this bit of code:

//Show Achievements Button

```

        [finishedButtons addObject:NSString(@"showAchievements", @"Show
Achievements")];

```


Step 4: IN Localizable.Strings

```
.....image = .....image";
"chooseImage" = "Choose Image";
"takeNewImage" = "Take New Image";
"uploadImage" = "Upload Image";
"uploadComplete" = "Upload Complete";
"uploadCompleteInfo" = "Upload Complete. You can upload another image or use Cancel to go back";
"uploadFailed" = "Upload Failed";
"uploadFailedInfo" = "You can try again or use Cancel to go back";
"emailImageDone" = "Re-load this screen to re-start the process or to send another message";
"addImageCaption" = "Add Image Caption";

//audio player
"audioLow" = "low";
"audioHigh" = "high";
"audioNotLoaded" = "audio not loaded";
"audioPlaying" = "audio playing";
"audioStopped" = "audio stopped";
"audioDownloading" = "downloading audio...";
"audioLoading" = "loading audio...";
"audioLoadingError" = "error loading audio?";

//quiz
"showAchievements" = "Show Achievements";
"quizSubmitScore" = "Submit Score";
"quizStart" = "Start Quiz";
"quizGo" = "go!";
"quizRotateMessage" = "Please rotate your device";
"quizCorrectAnswers" = "Correct Answers";
"quizIncorrectAnswers" = "Incorrect Answers";
"quizElapsedTime" = "Elapsed Time";
"quizTotalScore" = "Total Score";
"quizTryAgain" = "Try Again";
"quizShowScoreboard" = "Show Scoreboard";
"quizShowReward" = "Show Reward";
"quizScoreboard" = "Scoreboard";
"scoreboardScreenName" = "Scoreboard Screen-Name";
"scoreboardMessage" = "(others will see this)";
"quizShareText" = "Share Results";
```

Scroll down until you see //quiz, and add the line

“showAchievements” = “Show Achievements”;

and maybe while you are at it, change **“quizStart” = “start quiz”** to **“quizStart” = “Start Quiz”**. It always bugged me it is not capitalized.

If all went well, then you should have achievements that can be achieved.

Thanks for looking and if you find an error, please tell me, so I can fix it fast.

