



DROPPY TOWER TEMPLATE

USER GUIDE

We strive to provide the best service as we can, if you have any questions or suggestions, please contact us!
Thank you!

SgLib Games

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1 INTRODUCTION



Build a tower by dropping blocks one by one! Aim accurately and stack the blocks squarely on each other and form the tallest skyscraper! **Droppy Tower** is a simple yet exciting and addictive game that will keep the player entertained for hours.

This game is ready for release out-of-the-box. Everything just works. It is also flexible and customizable. Some highlights:

- Addictive one-touch gameplay
- Free-to-use assets (fonts, sounds, music, model, etc.)
- 30 built-in types of block for unlocking
- Daily reward for better retention
- Optimized for mobile

Most importantly, when equipped with the **Easy Mobile** plugin, this template can form a truly full-featured game that is ready for release. Easy Mobile is a comprehensive, cross-platform package that provides most of desired features of mobile games:

- Support for AdColony, AdMob, Chartboost, Facebook Audience Network, Heyzap, ironSource, MoPub, Tapjoy and UnityAds
- In-app purchasing
- Support for Game Center (iOS) and Google Play Games Services (Android) for leaderboards and achievements
- Recording gameplay and exporting GIF images

- Sharing to social networks (PNG or GIF images)
- Push notification using OneSignal or Firebase Cloud Messaging service
- Native rating request popup (rate my app)

2 GETTING STARTED

2.1 Enter app information

The project contains a game object called AppInfo where you can fill in important app-related metadata like AppStore Id and Bundle Id. These values will be used for features like Rate Us button and opening Facebook or Twitter page.

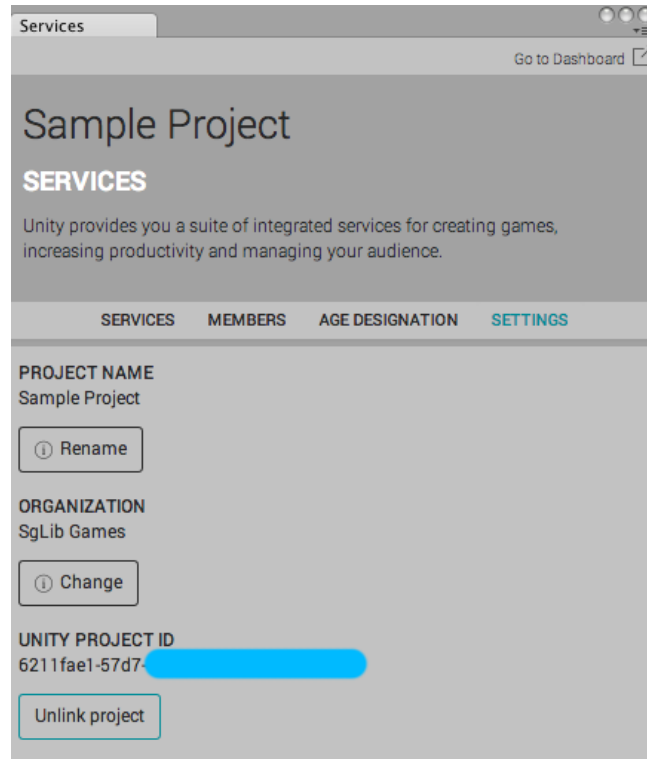


Script	AppInfo
APP_NAME	[YOUR_APP_NAME]
APPSTORE_ID	[YOUR_APPSTORE_ID]
BUNDLE_ID	[YOUR_BUNDLE_ID]
APPSTORE_HOMEPAGE	[YOUR_APPSTORE_PUBLISHER_LINK]
PLAYSTORE_HOMEPAGE	[YOUR_GOOGLEPLAY_PUBLISHER_NAME]
FACEBOOK_ID	[YOUR_FACEBOOK_PAGE_ID]
TWITTER_NAME	[YOUR_TWITTER_PAGE_NAME]
SUPPORT_EMAIL	[YOUR_SUPPORT_EMAIL]

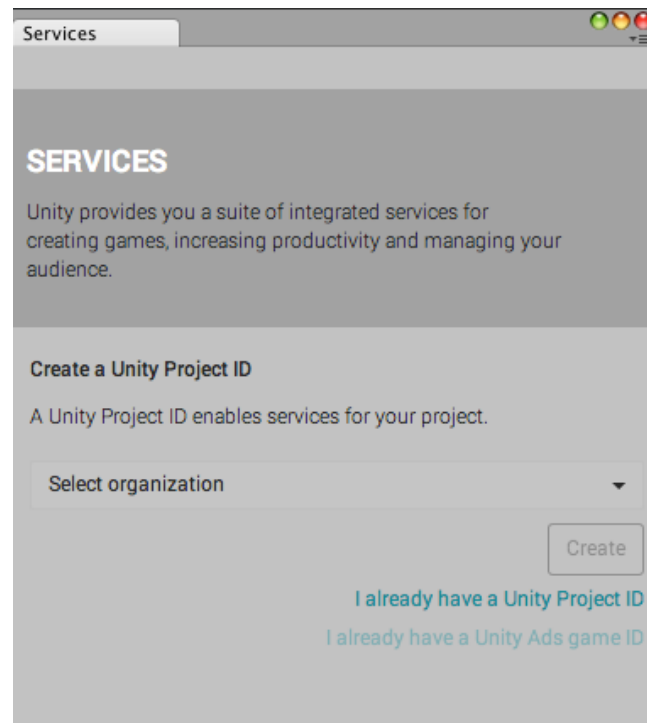
2.2 Link the game to your Unity project

When developing this template, we normally need to link it to our own Unity project for testing, therefore you may need to unlink it from our project and link it to your own one, if you're going to use Unity services (e.g. if you want to enable premium features of this template, you'll need to use Unity IAP service). To unlink the project:

- Select Window -> Unity Services
- Select SETTINGS tab
- Click Unlink Project button



Now you can create a new project for the game.



Now your game is linked to your own Unity project and is ready to use Unity

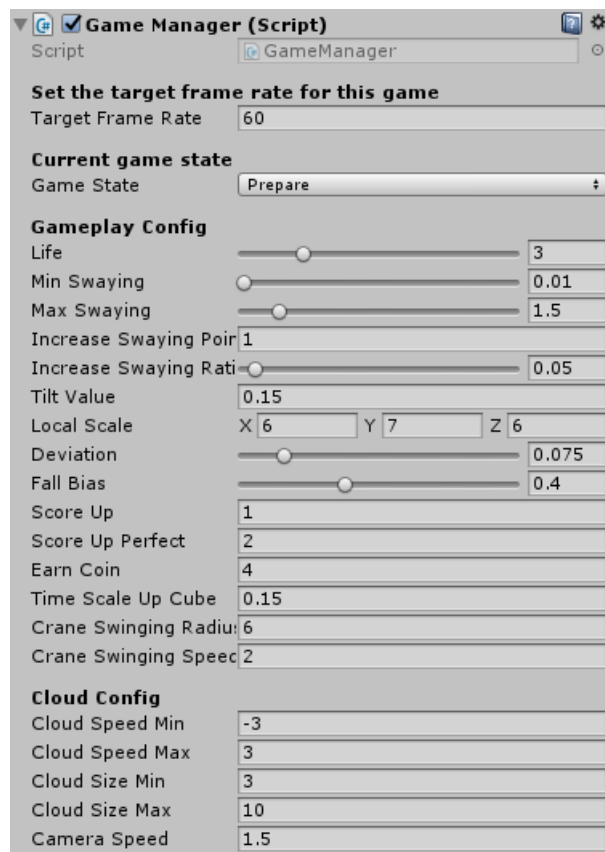
services.

3 TEMPLATE CUSTOMIZATION

3.1 Gameplay tweaking

3.1.1 GameManager

Most of important gameplay parameters can be configured within the GameManager component which is attached to a game object also named GameManager in the hierarchy.



You can tweak the gameplay by modifying following variables:

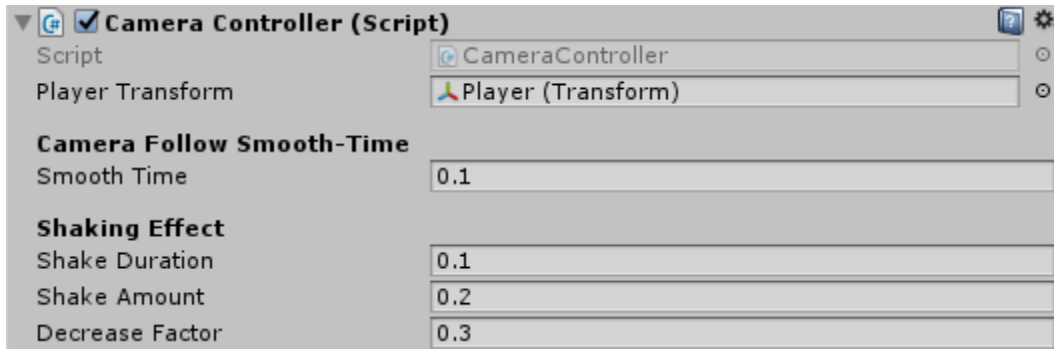
- *Life*: the number that player can be lost in a game when player drop new building out of the previous one.
- *MinSwaying*: the minimum swinging ratio for the building.
- *MaxSwaying*: the maximum swinging ratio for the building.
- *IncreaseSwayingPoint*: the number that each time player get scores equal

to this number the swinging ratio will increase.

- *IncreaseSwayingRatio*: the amount of width at which swinging ratio will increases each time player has a few points that you have set.
- *TiltValue*: increase swaying depend on deviation of tower.
- *LocalScale*: new building will be create with this scale.
- *Deviation*: the deviation distance between new building center and the older one that can be ignore to get perfect score.
- *FallBias*: deviation between new building and old building if it get over the bias, new building will be fall.
- *ScoreUp*: the number of score, player can get when drop building successfully.
- *ScorePerfect*: the number of score, player can get when drop building perfectly
- *CloudSpeedMin*: minimum speed that the clouds will be create with random speed.
- *CloudSpeedMax*: maximum speed that that the clouds will be created.
- *CloudSizeMin*: minimum size that the clouds will be create with random speed.
- *CloudSizeMax*: maximum size that that the clouds will be created.
- *CameraSpeed*: the speed that camera will be move up and down when player dies.
- *CraneSwingingRadius*: the radius for the crane swinging with the new building above.
- *CraneSwingingSpeed*: the speed for the crane swinging with the new building above.

3.1.2 CameraController

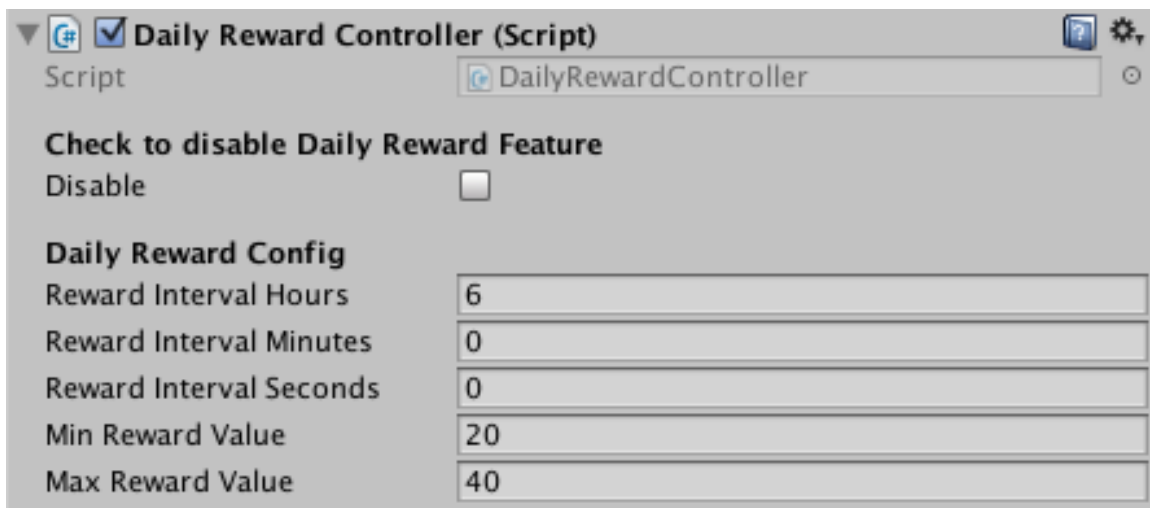
The CameraController component is attached to the Main Camera object in the hierarchy.



- *SmoothTime*: the smooth time of camera.
- *ShakeDuration*: how long the camera shaking.
- *ShakeAmount*: amplitude of the shake, a larger value shakes the camera harder.
- *DecreaseFactor*: the decrease value of shaking.

3.2 Daily reward feature

This template has a built-in daily reward system in which the user will be rewarded with coins every predefined interval of time. This is an effective way to increase user engagement and retention for your game. You can configure this feature from the *DailyRewardController* object in the hierarchy.

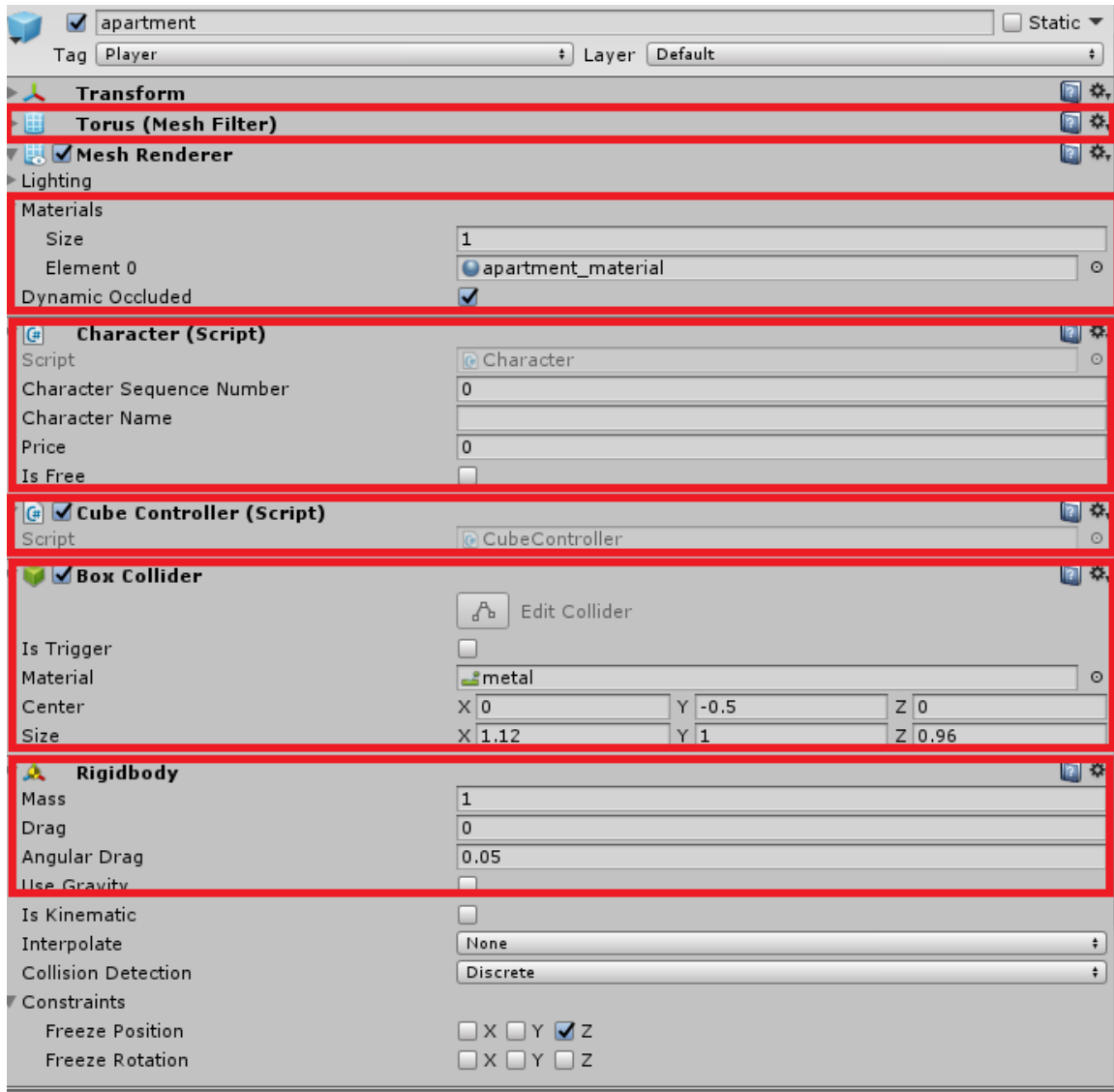


- *Disable*: check to disable this feature
- *Reward Interval Hours, Minutes and Seconds*: the amount of time until the next reward
- *Min Reward Value & Max Reward Value*: the actual rewarded coins will be randomized between these two values

3.3 Adding more characters

Out-of-the-box, this game is already packed with a few characters, cute and ready to use! If you want to add more, follow these simple steps:

- a. Create a character model with the pivot at the top center.
- b. Navigate to *Assets/Prefabs/Characters/CharacterPrefabs* and duplicate one of the available character prefabs.
- c. Change the name of the prefab to a preferred one.
- d. Replace the *Mesh* in the *MeshFilter* component with your new model mesh.
- e. Replace the *Material* in the *MeshRenderer* component with your new character material.
- f. Enter the character name and price to the *Character* component. Check the *isFree* option if you want to give out this character for free (it will be automatically unlocked). **Important:** *the new character's name must not repeat any existing character name.*
- g. Resize the character array in *CharacterManager* game object then drag the new character to it and hit Apply to save changes to its prefab.



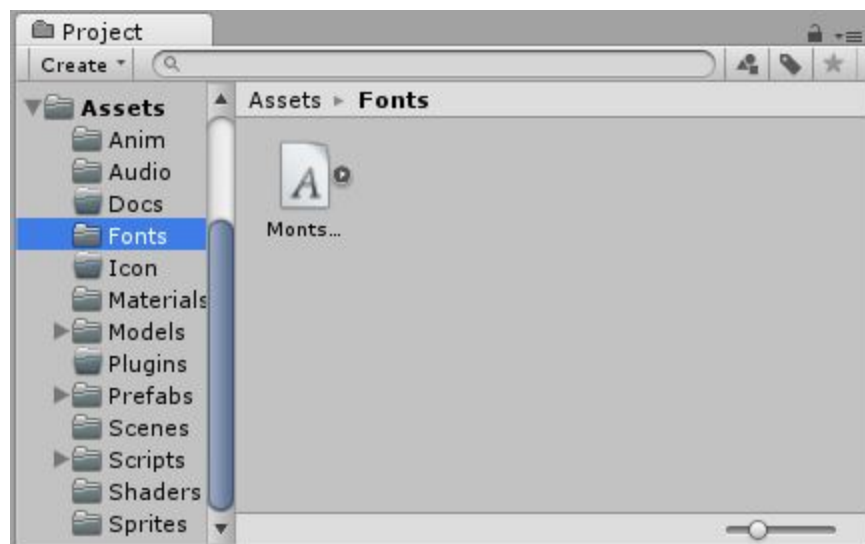
Now the new character has been added and ready to use in game! You will see it listed in the *CharacterSelection* scene.

3.4 Customizing UI

All sprites used in this game (for buttons and other UI components) are located under the *Sprites* folder. You can replace them with your own sprites to modify the UI as you like.

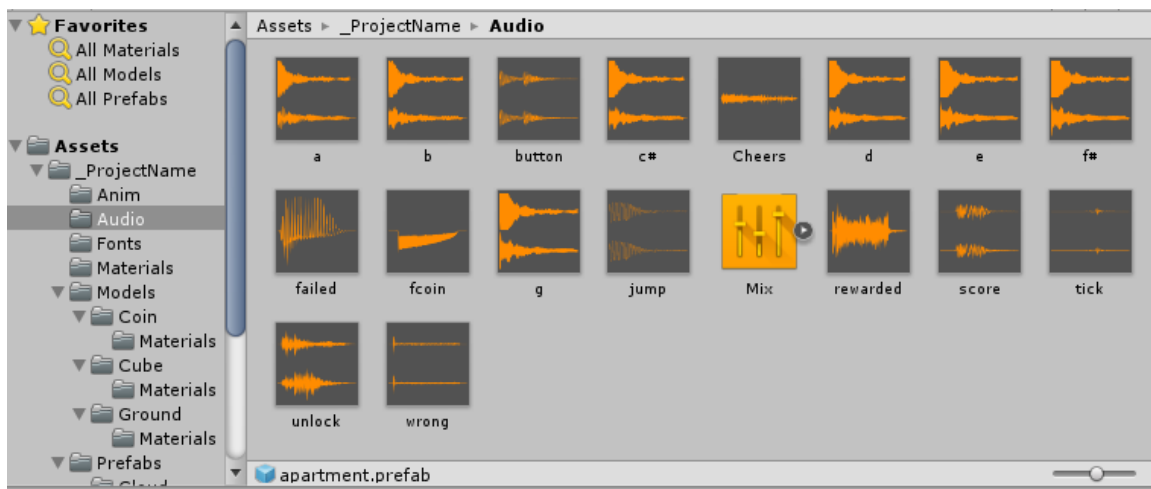


All fonts used in this game are free-to-use in commercial projects. Fonts are located under the *Fonts* folder together with appropriate license files.

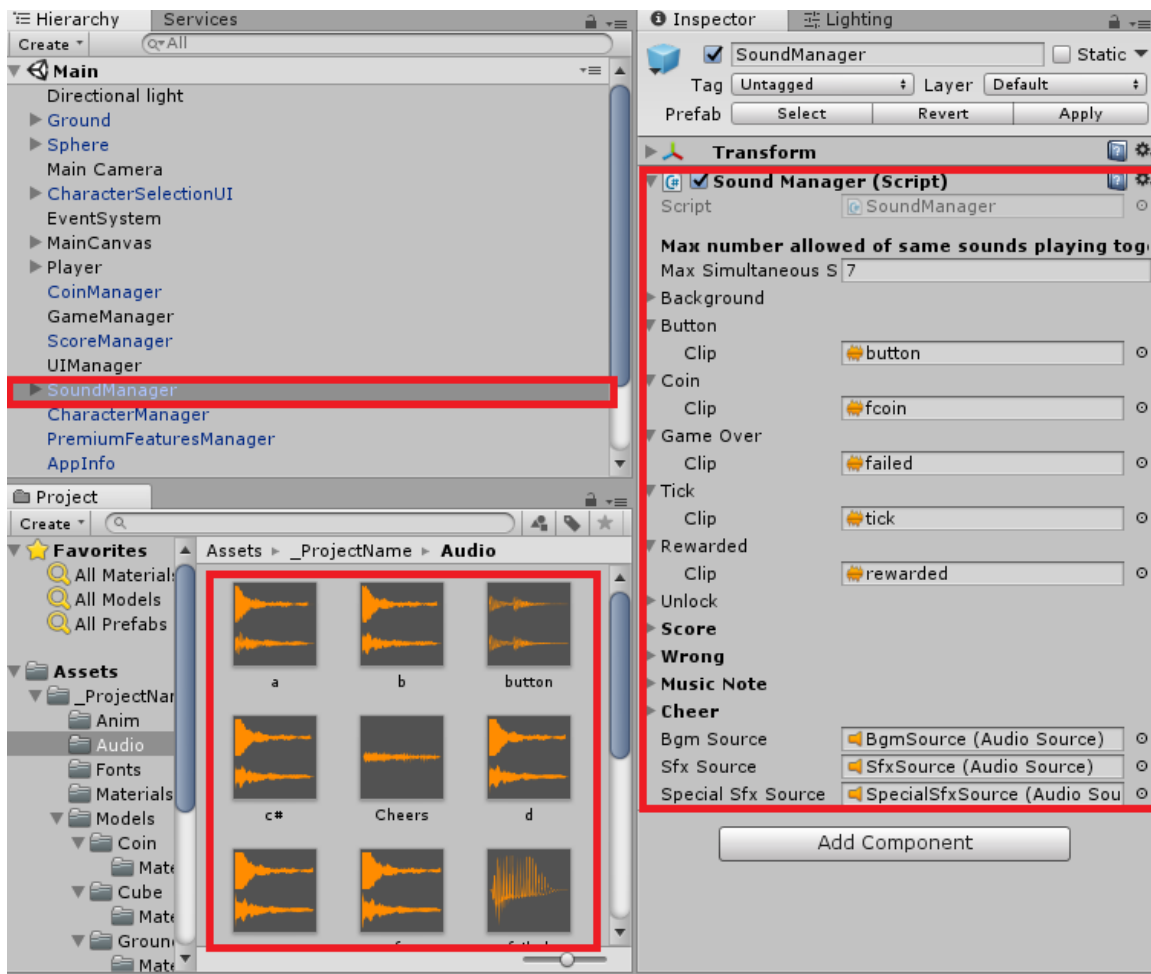


3.5 Sounds

All sounds included in this game are free-to-use in commercial projects and are located under the *Audio* folder.



This game features a *SoundManager* class to manage activities in game like playing music or mute/unmute sounds. If you want to replace sounds in this game, simply drag and drop new sounds to appropriate slots in the *SoundManager* component.

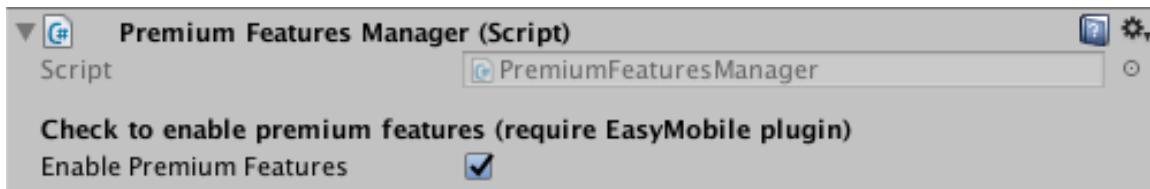


4 ENABLING PREMIUM FEATURES

This section provides a guide on configuring premium features for your game. As these features are implemented using Easy Mobile plugin, this guide is intended to be used alongside Easy Mobile's official user guide. Therefore, it is strongly recommended that you also read through that guide to familiarize yourself with the plugin. You can access the online user guide from menu *Window > Easy Mobile > Online Documentation* (after Easy Mobile is imported to the project).

4.1 Before You Begin

- In the Main scene's hierarchy, there's an object named *PremiumFeaturesManager* which contains all the relevant components from which you can configure how premium features behave in your game.
- Make sure the *EnablePremiumFeatures* option in the *PremiumFeaturesController* object is checked.

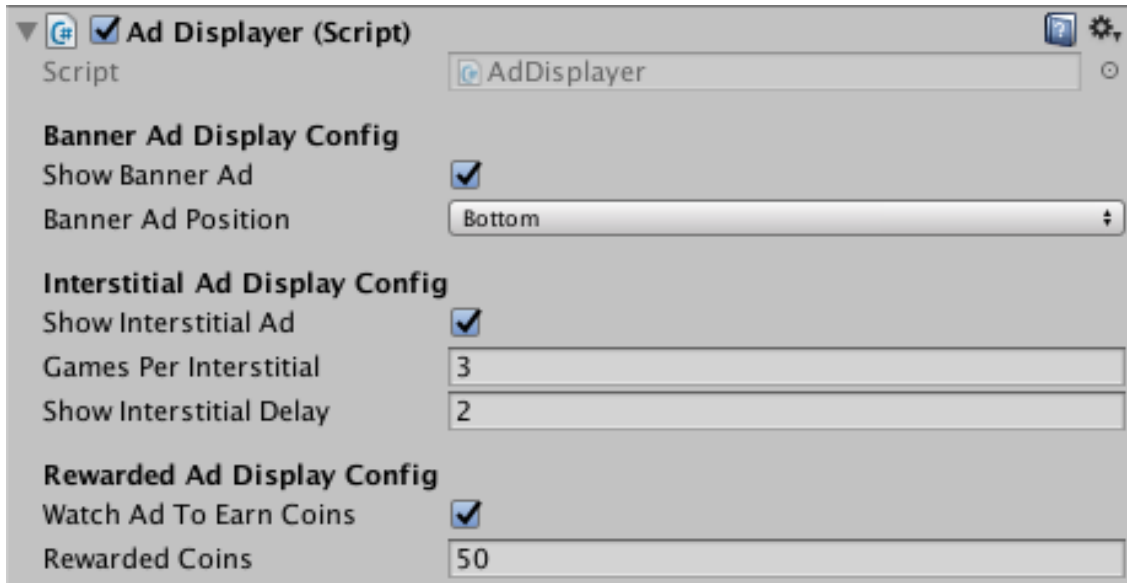


- The settings interface of Easy Mobile can be opened via menu *Window > Easy Mobile > Settings*, this is the only place to go to configure this plugin.
- Note that you won't need to write a single line of integration code for Easy Mobile to work, as the integration was done beforehand, you only need to configure the plugin in the editor (that means you can ignore all the Scripting sections in Easy Mobile user guide if you wish to).

4.2 Advertising

4.2.1 Template-specific setup

The PremiumFeatureManager object contains a component named *AdDisplayer* which is responsible for all ads displaying activities in the game. There you can configure how ads should be served in your game.



Banner ads are configured in the **Banner Ad Display Config** section.

- *Show Banner Ad*: whether to show a banner ad in game
- *Banner Ad Position*: which position the banner should be placed

Interstitial ads are configured in the **Interstitial Ad Display Config** section.

- *Show interstitial ad*: whether to show interstitial ads when game over
- *Games Per Interstitial*: how many games to be played before showing ad
- *Show Interstitial Delay*: how many seconds after game over that ad is shown

Rewarded ads are configured in the **Rewarded Ad Display Config** section.

- *Watch Ad To Earn Coins*: whether to allow the user to watch an ad to earn extra coins
- *Rewarded Coins*: how many coins should be awarded after watching an ad

4.2.2 Easy Mobile setup

Open Easy Mobile's settings interface to start configuring its Advertising module (see its user guide for more information). With Easy Mobile you'll have support for AdColony, AdMob, Chartboost, Heyzap (with mediation) and Unity Ads. You can use multiple ad networks at once and have different configurations for iOS and Android. Below is the settings interface of the Advertising module.

ADVERTISING

The Advertising module offers a unified API for a wide range of ad networks and other features that enable fast and flexible ads integration for your game.

AUTO AD-LOADING

Auto-Load Default Ads ☒

Ad Checking Interval

Ad Loading Interval

DEFAULT AD NETWORKS

► iOS

► Android

ADCOLONY

ADMOB

Google Mobile Ads (AdMob) plugin was imported.

Download Google Mobile Ads Plugin

App ID

► App ID

Default Placements

► Banner Ad

► Interstitial Ad

► Rewarded Ad

Custom Placements

▼ Banner Ads +

▼ Interstitial Ads +

▼ Rewarded Ads +

Targeting Settings

Tag For Child Directed Treatment

▼ Extra Options +

Key Value

Test Mode

Enable Test Mode ☒

Test Device IDs

Element 0

Element 1

You can setup the module in just a few steps as below. Please see the Advertising section in Easy Mobile's user guide for detailed instructions on each step.

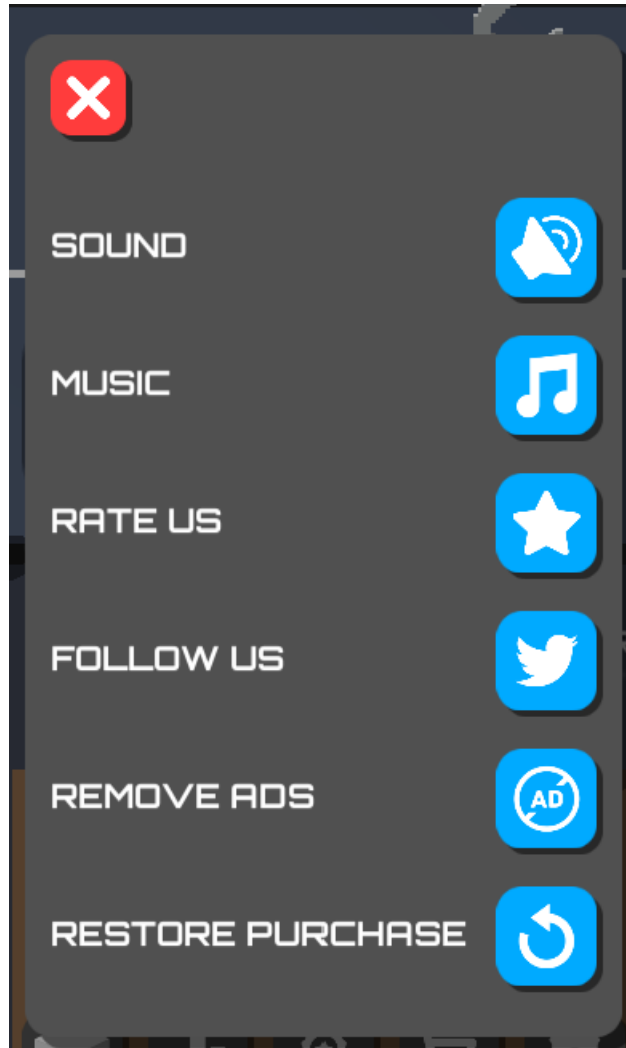
- Setup the ad networks you want to use, including importing the required plugins, please see Easy Mobile user guide for more information
- Enable auto ad-loading feature: simply leave the *Auto-Load Default Ads* option as checked and other parameters as default, the plugin will automatically load ads in the background
- Select default ad networks for each platform: choose your preferred network for each type of ad on each platform

That's it! Now your game is ready for showing ads!

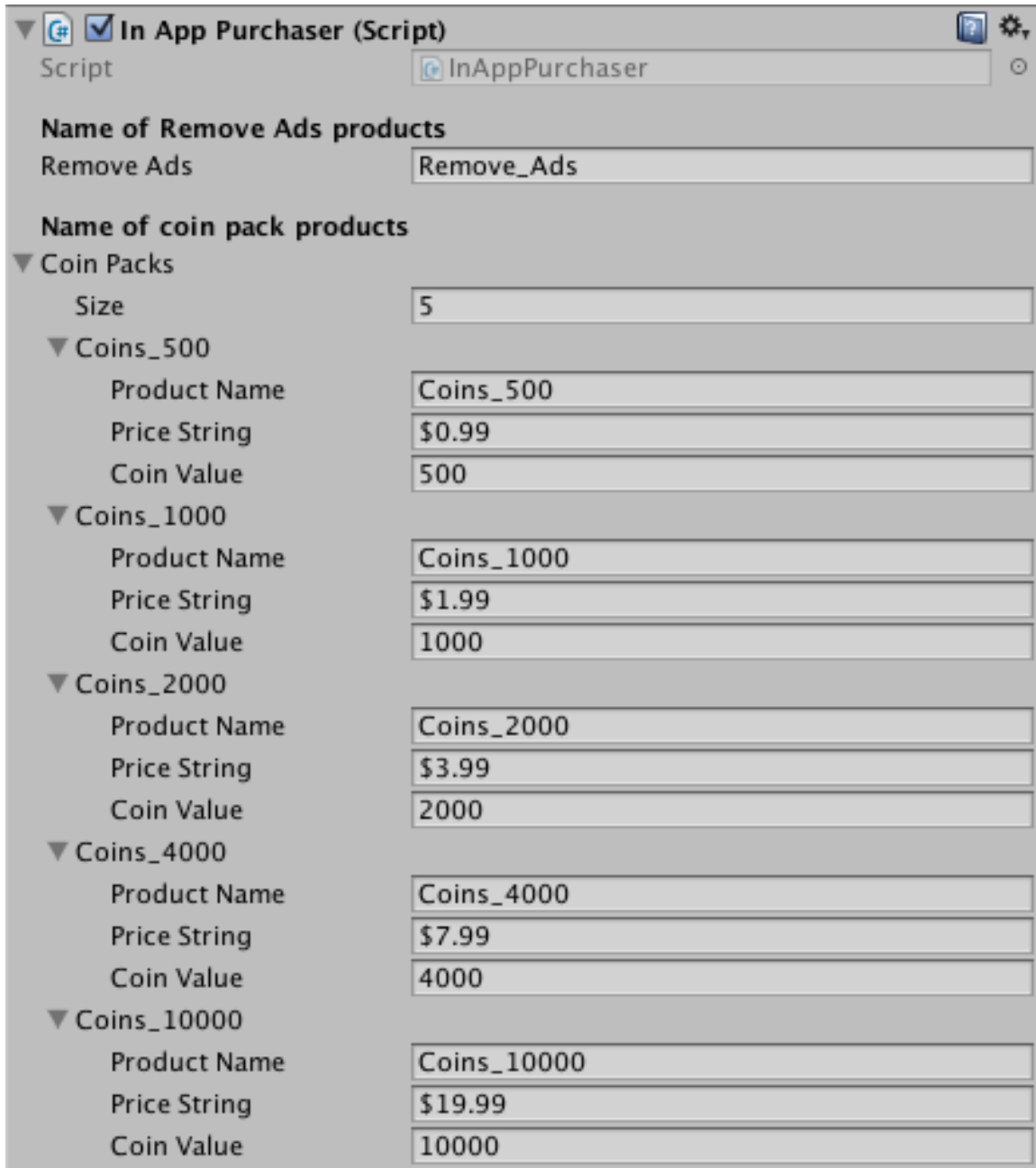
4.3 In-App Purchasing

4.3.1 Template-specific setup

The built-in in-app purchases of this template include a *Remove Ads* button, and several coin packs. You can modify existing products and add more coin packs if you like. There's also one *Restore Purchase* button as required on iOS.



The `PremiumFeaturesManager` object contains a component named *InAppPurchaser* which manages all the in-app purchasing activities in this game.



In App Purchaser (Script)

Script

Name of Remove Ads products

Remove Ads

Name of coin pack products

▼ Coin Packs

Size

▼ Coins_500

Product Name

Price String

Coin Value

▼ Coins_1000

Product Name

Price String

Coin Value

▼ Coins_2000

Product Name

Price String

Coin Value

▼ Coins_4000

Product Name

Price String

Coin Value

▼ Coins_10000

Product Name

Price String

Coin Value

Here you can modify the product definitions including the displayed name, price or coin value of the coin packs. To add more coin packs, simply increase the *CoinPacks* array size and enter necessary information for your new packs. The built-in store UI will automatically update to your changes in the product list without you having to do anything.




4.3.2 Easy Mobile setup

Setting up the In-App Purchasing module of Easy Mobile includes the following steps. Please see the In-App Purchasing section in Easy Mobile's user guide for detailed instructions on each step.



- Enable Unity In-App Purchasing service
- Select target store if you're on Android
- Enable receipt validation if you wish
- Declare the products

Below is the settings interface of the In-App Purchasing module of Easy Mobile.


[Back To Home](#)

 **IN-APP PURCHASING** 

The In-App Purchasing module leverages Unity IAP to help you quickly setup and sell digital goods in your game.

 **TARGET ANDROID STORE** 


Target Android Store Google Play

 **RECEIPT VALIDATION** 

Unity IAP offers local receipt validation for extra security. Apple stores and Google Play store only.

Validate Apple Receipt ☐


Validate Google Play Receipt ☐

 Please go to Window > Unity IAP > IAP Receipt Validation Obfuscator and create obfuscated secrets to enable receipt validation for Apple stores and Google Play store. Note that you don't need to provide a Google Play public key if you're only targeting Apple stores.

 **PRODUCTS** 

No products added.

Add New Product

 **CONSTANTS GENERATION** 

Generate the static class EasyMobile.EM_IAPConstants that contains the constants of product names. Remember to regenerate if you make changes to these names.

Generate Constants Class

Note that the products declared with Easy Mobile must have names that match with the ones you have in the aforementioned *InAppPurchaser* component. Also note that *Remove Ads* is a non-consumable product, while the coin packs must be consumable.

The screenshot displays a configuration interface for in-app purchases. It features two main sections, each with a title, input fields for Name, Type, and Id, and a 'More (Optional)' link. To the right of each section are three vertically stacked buttons: an up arrow, a minus sign, and a down arrow.

Remove_Ads

- Name: Remove_Ads
- Type: Non Consumable
- Id: sglib.demogame.iap.remove_ads
- More (Optional)

Coins_500

- Name: Coins_500
- Type: Consumable
- Id: sglib.demogame.iap.coins_500
- More (Optional)

4.3.3 Create the products for targeted stores

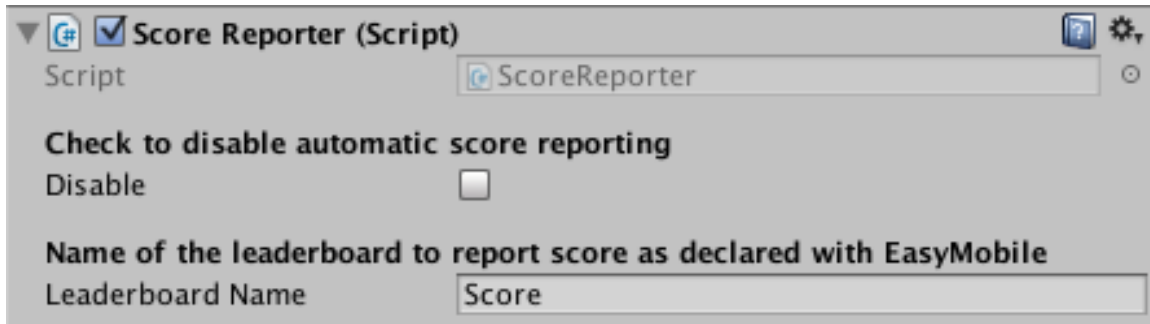
That last step in configuring the in-app purchasing feature is to create products for your targeted stores (e.g. Google Play and Apple App Store). Make sure the product ID, product type and price match the ones you have in your game.

4.4 Game Service

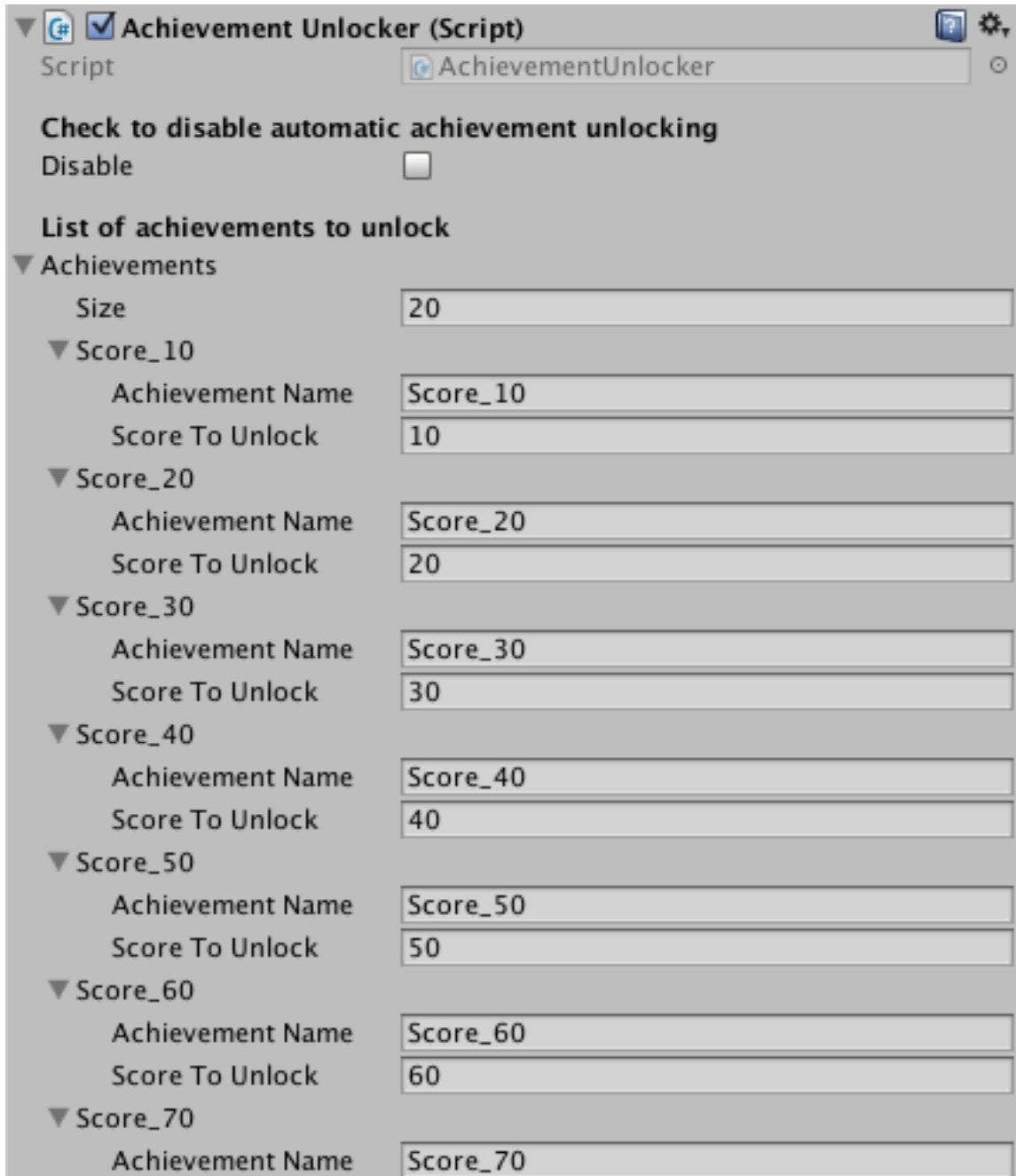
4.4.1 Template-specific setup




This template has a built-in leaderboard for ranking users' scores, and many achievements. It works with Game Center (iOS) and Google Play Game Services (Android).

User's score will be submitted automatically when game over by a component named *ScoreReporter*, which is also attached to *PremiumFeaturesManager* object. There you can change the leaderboard name or even disable automatic score reporting altogether.



Achievements will be unlocked automatically when the user reaches a certain score. The achievement unlocking is handled by the component named *AutoAchievementUnlocker*. In this component, you can modify existing achievements and add or remove achievements. You can also disable the automatic achievement unlocking feature if you wish.



▼  ☒ Achievement Unlocker (Script)  

Script

Check to disable automatic achievement unlocking

Disable ☐

List of achievements to unlock

▼ Achievements

Size

▼ Score_10

Achievement Name

Score To Unlock

▼ Score_20

Achievement Name

Score To Unlock

▼ Score_30

Achievement Name

Score To Unlock

▼ Score_40

Achievement Name

Score To Unlock

▼ Score_50

Achievement Name

Score To Unlock

▼ Score_60

Achievement Name

Score To Unlock

▼ Score_70

Achievement Name

4.4.2 Setup for your targeted stores

The next step is to create the required leaderboard and achievements for your targeted stores (i.e. in iTunes Connect for App Store and the Developer Console for Google Play). Take note of their IDs for use in the next step.

4.4.3 Easy Mobile setup

Setting up the Game Service module of Easy Mobile includes the following steps. Please see the Game Service section in Easy Mobile's user guide for detailed instructions on each step.

- a. Import Google Play Games plugin for Unity and setup it if you're targeting Android
- b. Enable the automatic initialization feature: just leave everything under the **AUTO-INIT CONFIG** section as default
- c. Declare the leaderboards and achievements

Below is the settings interface of the Game Service module of Easy Mobile.

GAME SERVICES

The Game Services module streamlines the integration of Game Center (iOS) and Google Play Games Services (Android) into your game.

DOWNLOAD GPGS PLUGIN

Google Play Games plugin is imported and ready to use.

Download Google Play Games Plugin

GOOGLE PLAY GAMES SETUP

GPGS Debug Log ☒

GPGS Popup Gravity Top

Web App Client ID (Optional)

The web app client ID is needed to access the user's ID token and call other APIs on behalf of the user. It is not required for Game Services. Enter your oauth2 client ID below. To obtain this ID, generate a web linked app in Developer Console. Example: 123456789012-abcdefghijklmnopqrstuvwxyz.apps.googleusercontent.com

Web Client Id

Android XML Resources

Paste in the Android XML Resources from the Play Console and hit the Setup button.

```
<?xml version="1.0" encoding="utf-8"?>
<!--
Google Play game services IDs.
Save this file as res/values/games-ids.xml in your project.
-->
<resources>
  <!-- app_id -->
  <string name="app_id" translatable="false">6</string>
  <!-- package_name -->
  <string name="package_name" translatable="false">com.sglib.easy</string>
  <!-- achievement Sample Achievement 1 -->
```

Setup Google Play Games

AUTO INITIALIZATION

Auto Init ☒

Auto Init Delay

[Android] Max Login Reque

SAVED GAMES

Enable Saved Games ☒

Conflict Resolution Strategy Use Base

[Android] Data Source Read Cache Or Network

LEADERBOARDS

Note that you must declare the leaderboard and achievements with the same names as the ones you have in the *AutoScoreReporter* and *AutoAchievementUnlocker* components. Also their IDs must match the ones you created in iTunes Connect and Google Play Developer Console.

4.5 Native Sharing

This template has a Share button that allows the user to share a screenshot of the gameplay (in animated GIF or static PNG format) to social networks using the native sharing functionality. This activity is managed by a component named *ScreenshotSharer*, which is also attached to the PremiumFeaturesManager object. When a new game starts, this component will setup and start a recorder to record the screen content, and stop the recorder when the game ends. The recorder automatically stores a few last seconds of the recording, and discards the rest. The recorded clip will then be exported to a GIF image, then uploaded to [Giphy](#), and finally its URL can be shared and played automatically on major social networks including Facebook and Twitter.

Script
ScreenshotSharer

Check to disable sharing
Disable Sharing ☐

Sharing Config
Shared Image Format: Both
Share Message: Awesome! I've just scored [score] in [AppName]! [#AppName]

Gif Filename: animated_screenshot
Png Filename: screenshot

GIF Settings
Gif Auto Height: ☒
Gif Width: 320
Gif Height: 480
Gif Fps: 15
Gif Length: 3
Gif Loop: 0
Gif Quality: 80
Gif Thread Priority: Below Normal
Enable Easy Mobile Attribution Mark: ☒

Giphy Credentials - leave both empty to use Giphy Beta key
Giphy Username:
Giphy Api Key:
Giphy Upload Tags: dashy, worm

Here you can configure the sharing feature.

- *Disable Sharing*: disable this feature
- *Share Image Format*: you can share GIF or PNG image, or both
- *Share Message*: the default sharing message, note that [score] will be

automatically replaced by actual score, and [AppName] will be replaced by the app name declared in AppInfo

- *Gif Filename*: filename to store the generated GIF image
- *Png Filename*: filename to store the captured PNG image

In the **GIF Settings** section, you can configure the generation of the GIF image.

- *Gif Auto Height*: automatically calculate the image height based on the specified width and the screen aspect ratio
- *Gif Width*: the image width
- *Gif Height*: the image height, will be overwritten if *GifAutoHeight* is enabled
- *Gif Fps*: frame per second of the GIF image
- *Gif Length*: the length of the GIF in seconds, as mentioned earlier, the recorder only keeps this many seconds of the recording, and discards old content
- *Gif Loop*: looping mode of the GIF; 0 means loop indefinitely, -1 means no loop, > 0 means loop a set number of times
- *Gif Quality*: quality setting value in range [1,100], bigger values mean better quality but slightly longer generation time; 80 is generally a good value in terms of quality-time balance
- *Gif Thread Priority*: the priority of the GIF generation thread
- *Enable Easy Mobile Attribution Mark*: whether to display Easy Mobile attribution when generating GIF images

You can also control the Giphy uploading activity with the following parameters:

- *Giphy Username & Giphy Api Key*: provide these values if you want to upload the GIF image to your own Giphy channel; otherwise leave them empty to use the [Giphy beta key](#)
- *Giphy Upload Tags*: comma-delimited list of tags of the uploaded image

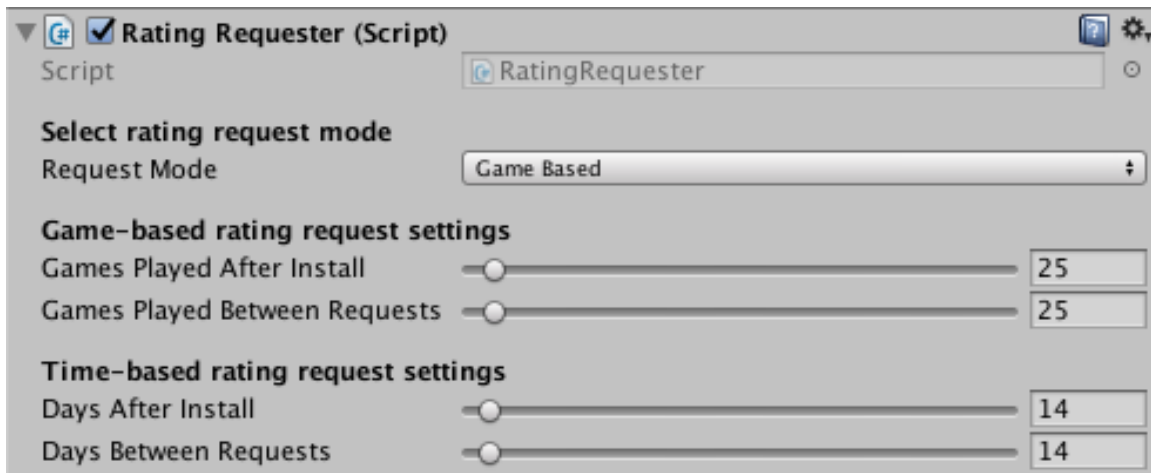
Note that you need to enable the *External Write Permission* for this feature to function properly on Android. Please see the Native Sharing section in Easy Mobile user guide for detailed instructions on doing that.

4.6 Rating Request

This template employs the Rating Request feature of Easy Mobile, to show a rate-my-app popup when game over, if some certain conditions are met. The Rating Request feature of Easy Mobile allows us to show the built-in rating prompt on iOS (10.3+) and a native rating popup on Android. Please see the Rating Request section in Easy Mobile user guide for instructions on configuring the appearance

and behavior of this popup.

You can set the conditions to show this rating popup using the *RatingRequester* component of the PremiumFeaturesManager object.



- *Request Mode*: whether to show the rating popup based on the number of games played (Game Based mode), or based on the time since the installation of the app (Time Based mode)

If you select *Game Based* mode, pay attention to these two variables:

- *Games Played After Install*: how many games should be played since the installation before a rating popup is shown
- *Game Played Between Requests*: how many games should be played since the last time a rating popup is shown (in case it was dismissed by the user) that a new popup can be shown

If you select *Time Based* mode, adjust these two variables:

- *Days After Install*: how many days after the installation that a rating popup is shown
- *Days Between Requests*: how many days since the last time a rating popup is shown that a new one can be shown

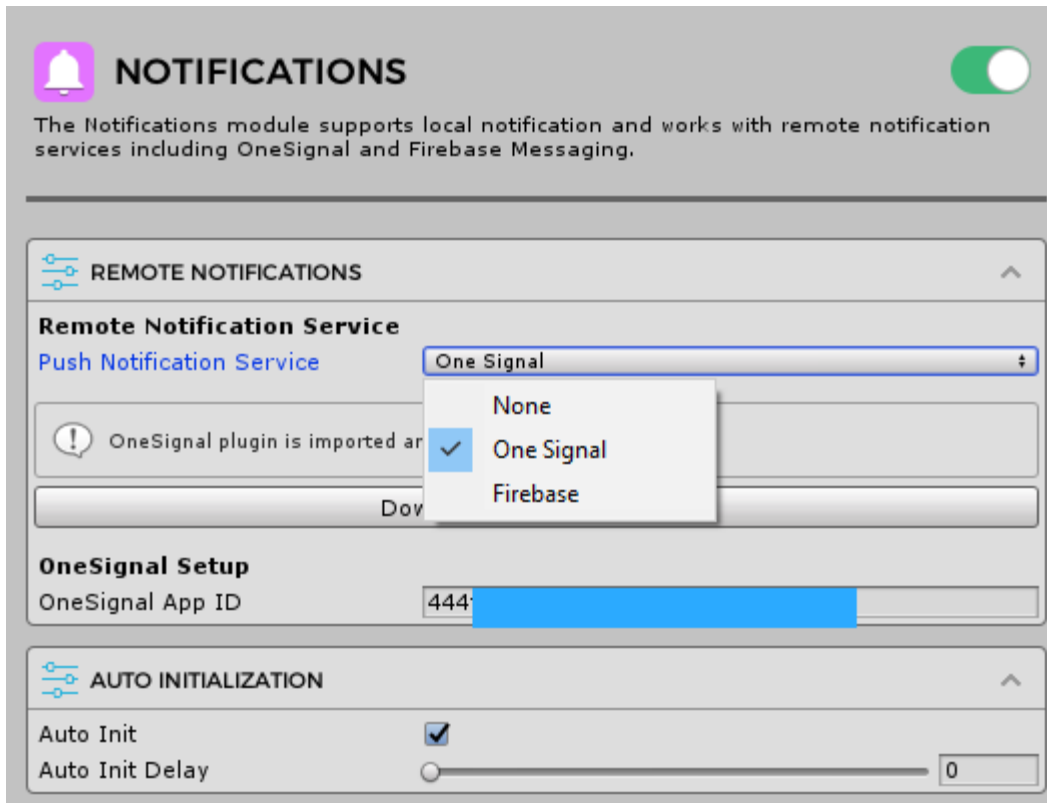
4.7 Push notification

Enabling push notification for your app using OneSignal service includes following steps. Please see the Notifications section in Easy Mobile user guide for detailed instructions on each step.

- Open the Notification tab in Easy Mobile's settings interface
- Import OneSignal plugin

- Prepare your app for push notifications, e.g. enable the Push Notification capability for the provisioning profile on iOS (please see Easy Mobile user guide as well as OneSignal documentation for detailed instructions).
- Add your app to OneSignal dashboard
- Enter your app ID to Easy Mobile settings in Unity

Below is the settings interface of the Notification module of Easy Mobile after importing OneSignal plugin and you can enter your app ID.



That's it! You've just finished implemented premium features for your game!

THANK YOU AND GOOD LUCK WITH YOUR GAMES!