CCG Kit

User Guide

(version 0.7)

Introduction

Welcome to CCG Kit and thank you for your purchase! CCG Kit was born out of the realization that there was a distinct lack of high-quality, well-documented information on how to create a multiplayer collectible card game (CCG/TCG) with Unity. After the new networking system in Unity (UNET) was released, bringing facilities directly integrated into the engine to develop multiplayer games, it only made sense to start work on an Asset Store kit for providing a solid foundation for developers to create their own multiplayer collectible card games.

The key goals of CCG Kit are the following:

- Server-authoritative multiplayer by default.
- Leverage UNET.
- High-quality, well-documented code.
- Release often.

Let's dive into the reasoning behind each of these goals in more detail.

Server-authoritative multiplayer by default

Our experience working in the industry for several years shows that, as soon as your multiplayer game reaches a certain mass of players, a subset of them will try to hack it. It is simply going to happen. Cheating in multiplayer games is no fun and hurts the experience of the non-cheater players, so if you want to create a multiplayer game you really want to be serious about this issue from the beginning.

CCG Kit design revolves around the fundamental idea that the server is authoritative, meaning it drives the entire logic of the game and is ultimately the one deciding if any given action is allowed. Clients are therefore reduced to "dumb" terminals that take the player's input, send it to the server and update the UI accordingly when the server answers back.

"Dumb" terminal is a bit of an unfair term, as the client still needs to perform quite a bit of work. Work that potentially includes running some of the game logic locally to hide the latency that inevitably exists in any networking scenario in order to present smooth, lag-free visuals to the player. But the important idea here is that the server is always the one in control of the game, and may ultimately override the client's state if deviations arise.

Leverage UNET

Unity is a great game engine and the release of UNET has made it even better. Developing a multiplayer game is a big endeavor and we want to provide a reasonable entry point that does not require users to setup a complex server stack unless they want to. By default, the kit requires no dedicated server and uses Unity Multiplayer Services for matchmaking. This is probably the best option if you are starting out with multiplayer development or want to get something up and running as fast as possible, but the kit is also prepared to support running on a dedicated server if you want to (a Unity headless instance until UNET releases its server library with Unity 5.x).

Having used UNET it since its release, we can confidently say it is getting better with every release and already is a great networking library that integrates very well with the rest of the Unity ecosystem. UNET is the future and we are ready and prepared to keep up with its development.

High-quality, well-documented code

We take pride in our work and aim to deliver excellent code that works, follows good practices and is well-documented.

As development on the project progressed, we faced an interesting dilemma as we noticed a lot of elements in the game could be abstracted into more generally useful components. Should we release the game as it stands or try to make it more universal? We finally decided to bite the bullet and cleanly separate the core functionality from the demo/example functionality to pave the way for even more customization opportunities in future releases.

Of course, one can think of infinite variations on game rules and card mechanics for a CCG project, so we intend to improve the kit with every release based on your feedback using it in your own games.

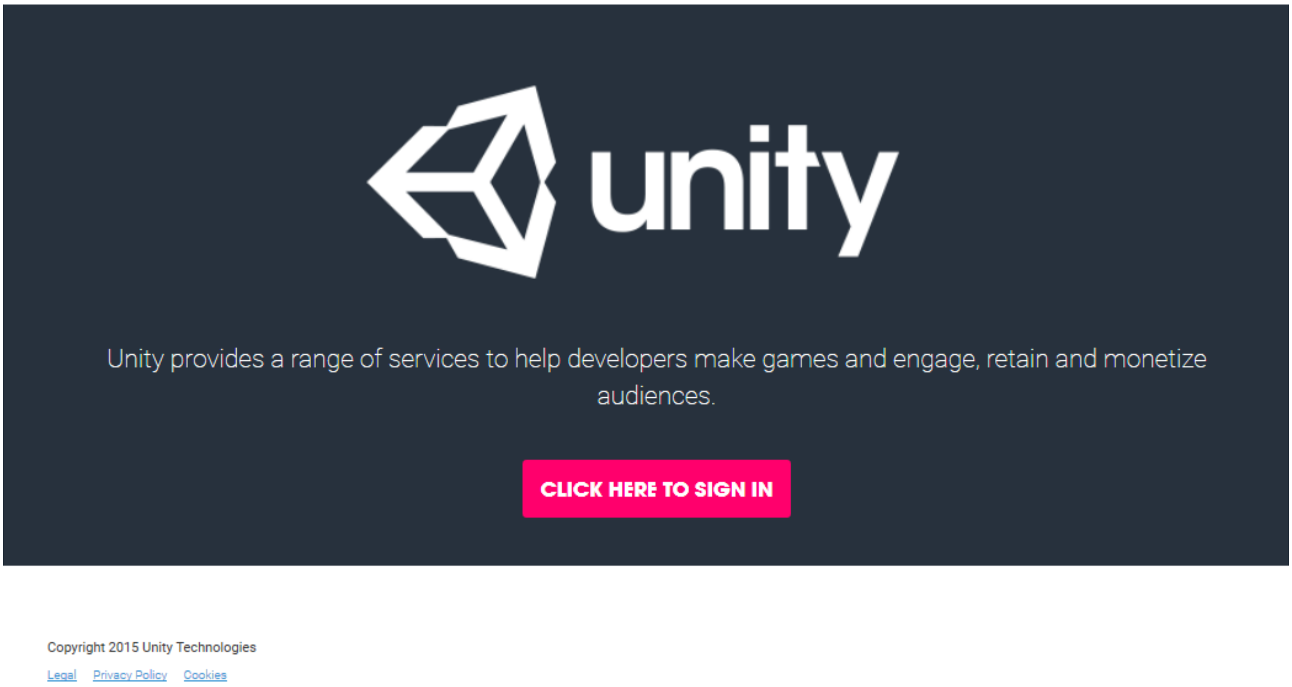
Release often

We release new updates often to improve and extend the kit's functionality. Our vibrant user community is always suggesting new ideas for the future and we listen carefully to each and every one of them.

We maintain a public roadmap here where you can see what we are currently working on and also keep track of ideas for future improvements and research. You can vote and comment on any of the items and we definitely welcome you to do so! Our ultimate goal is to contribute to the creation of a community of developers interested in collectible card games. We want to help you make your dream CCG/TCG come true!

Initial setup

After downloading the asset package from the Asset Store and importing it into your project, you will need to setup Unity's Multiplayer Services in order to be able to run the demo game (and generally any game using UNET's matchmaking). In order to do this, log into this website with your Unity credentials:



Unity provides a range of services to help developers make games and engage, retain and monetize audiences.

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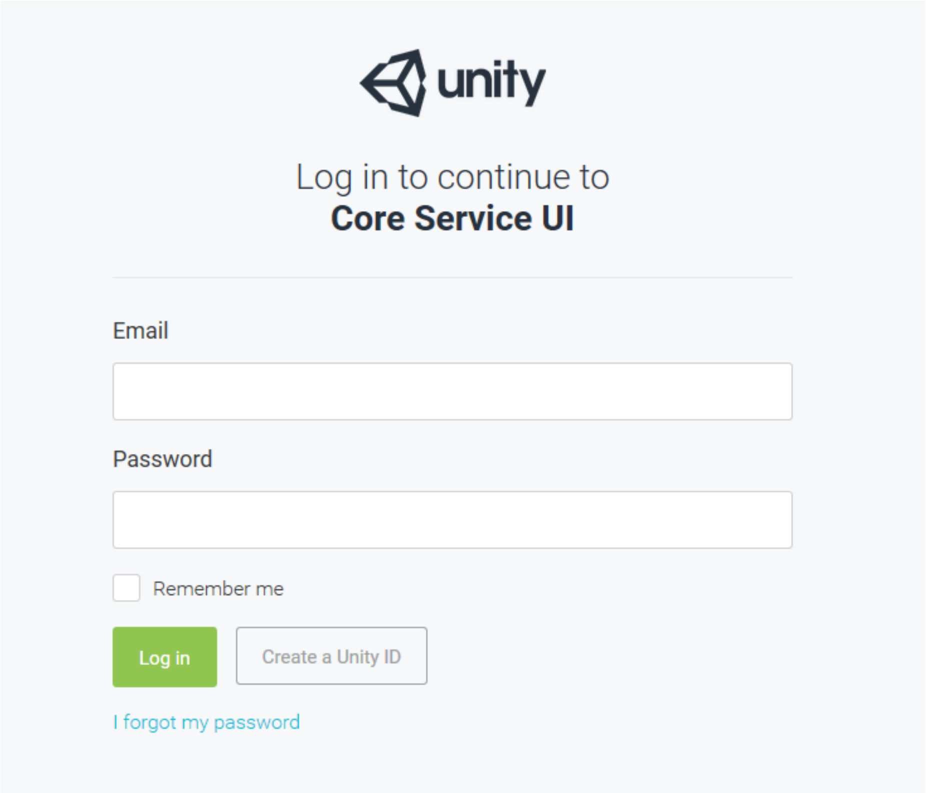


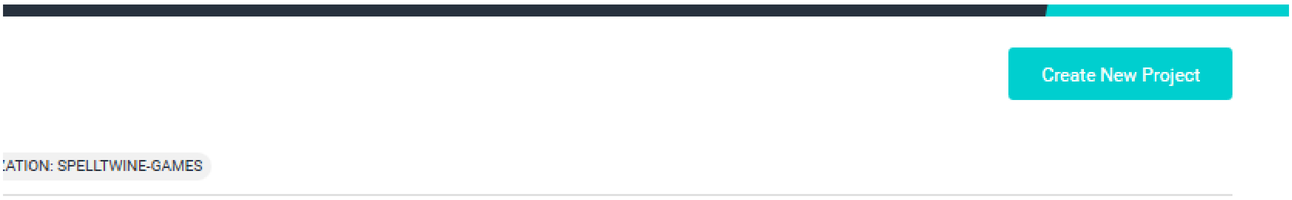
Log in to continue to
Core Service UI

Email

Password

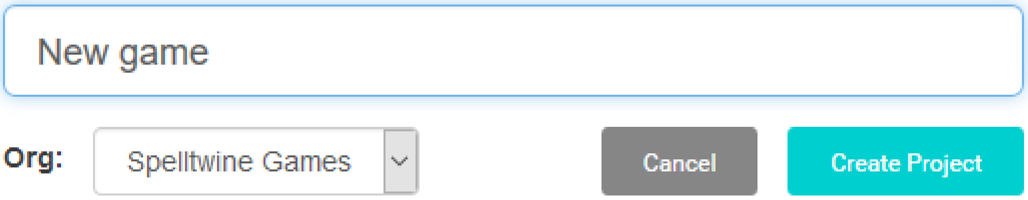
□ Remember me

Once you are logged in, click on the "Create New Project" button:



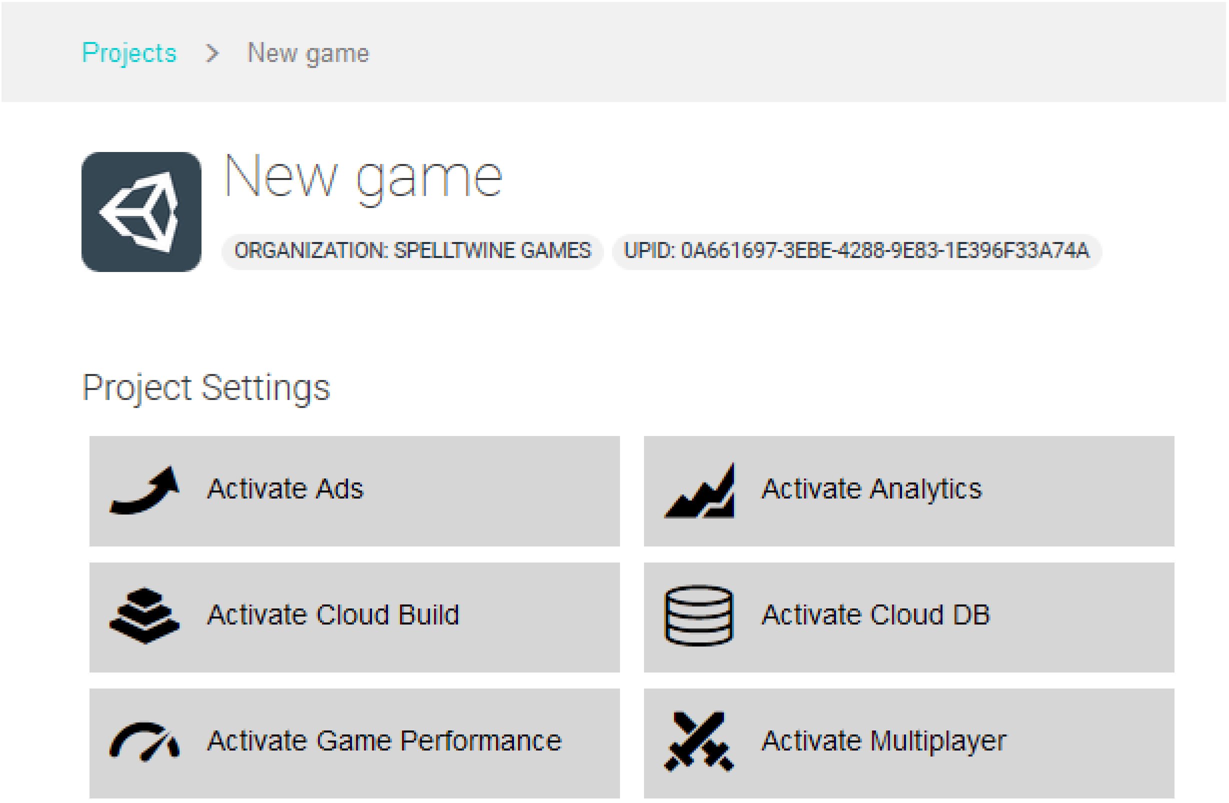
:ATION: SPELLTWINE-GAMES

Select a name and organization for your new project:


New game

Org: Spelltwine Games

With the new project created, click on the "Activate Multiplayer" button:

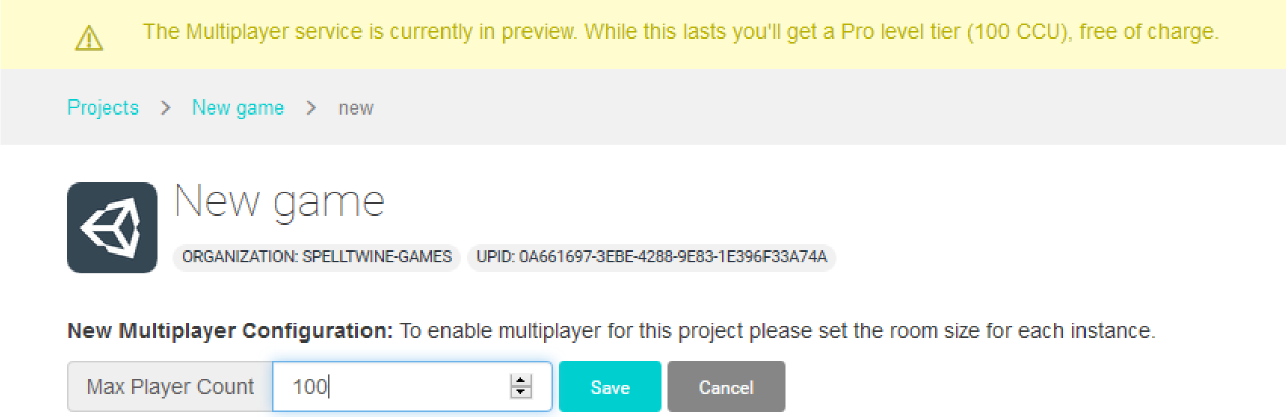


New game

ORGANIZATION: SPELLTWINE GAMES UPID: 0A661697-3EBE-4288-9E83-1E396F33A74A

Project Settings

Now set an appropriate maximum number of concurrent users:



⚠ The Multiplayer service is currently in preview. While this lasts you'll get a Pro level tier (100 CCU), free of charge.

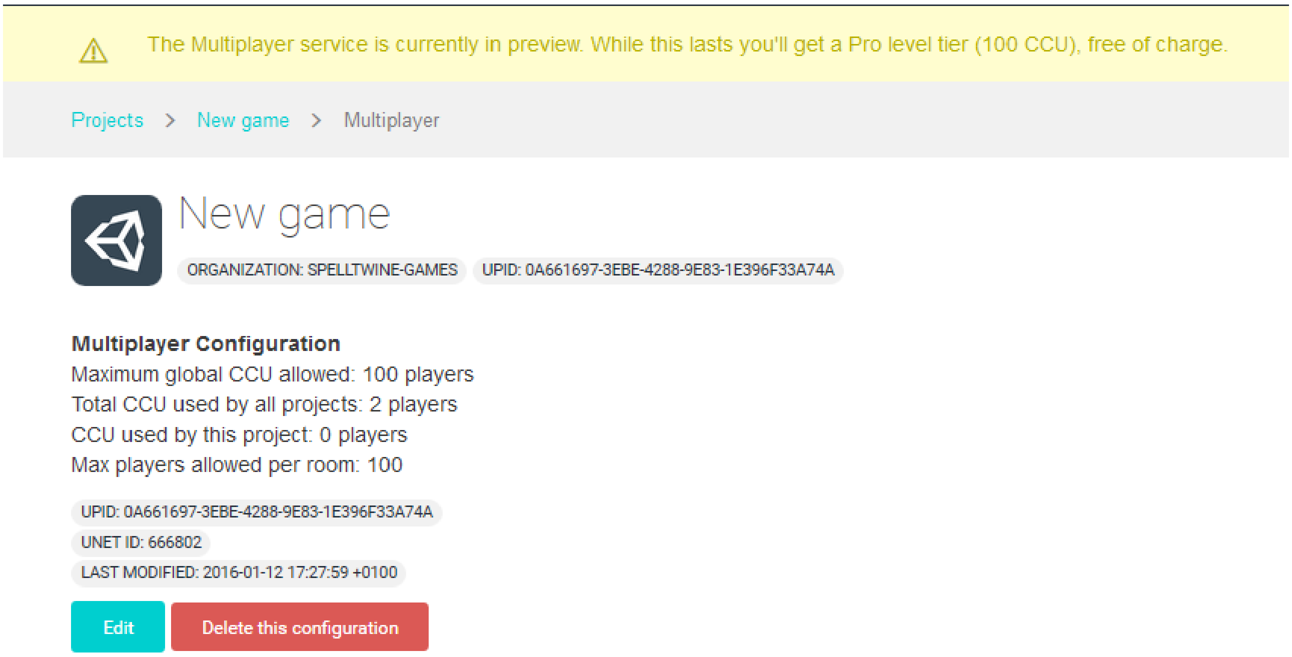
New game

ORGANIZATION: SPELLTWINE-GAMES UPID: 0A661697-3EBE-4288-9E83-1E396F33A74A

New Multiplayer Configuration: To enable multiplayer for this project please set the room size for each instance.

Max Player Count: 100

Your project is able to use Unity's multiplayer services now.



⚠ The Multiplayer service is currently in preview. While this lasts you'll get a Pro level tier (100 CCU), free of charge.

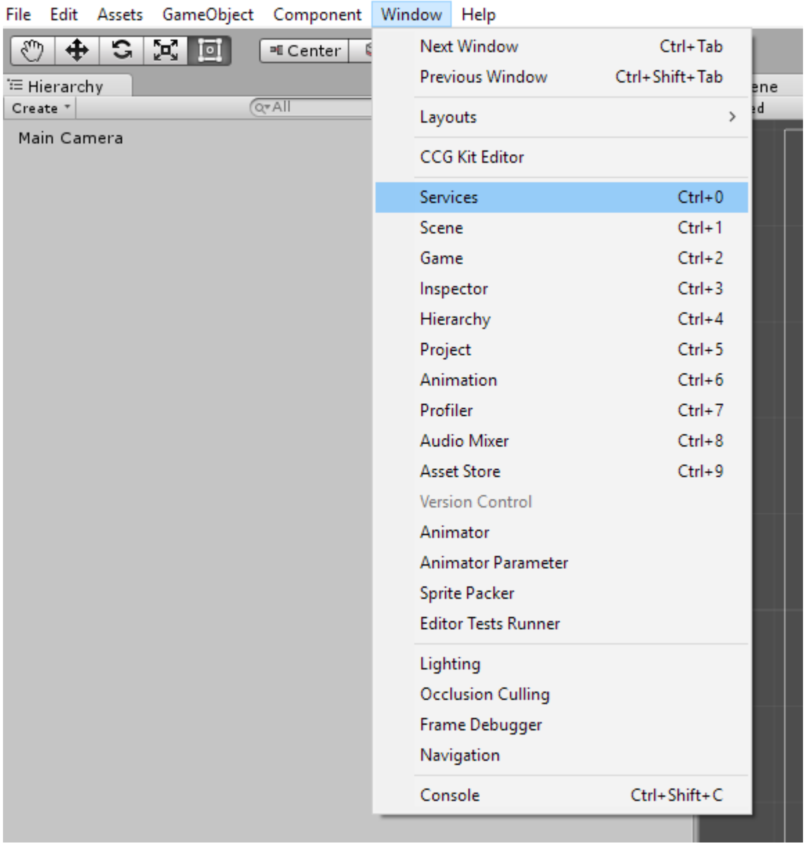
New game

ORGANIZATION: SPELLTWINE-GAMES UPID: 0A661697-3EBE-4288-9E83-1E396F33A74A

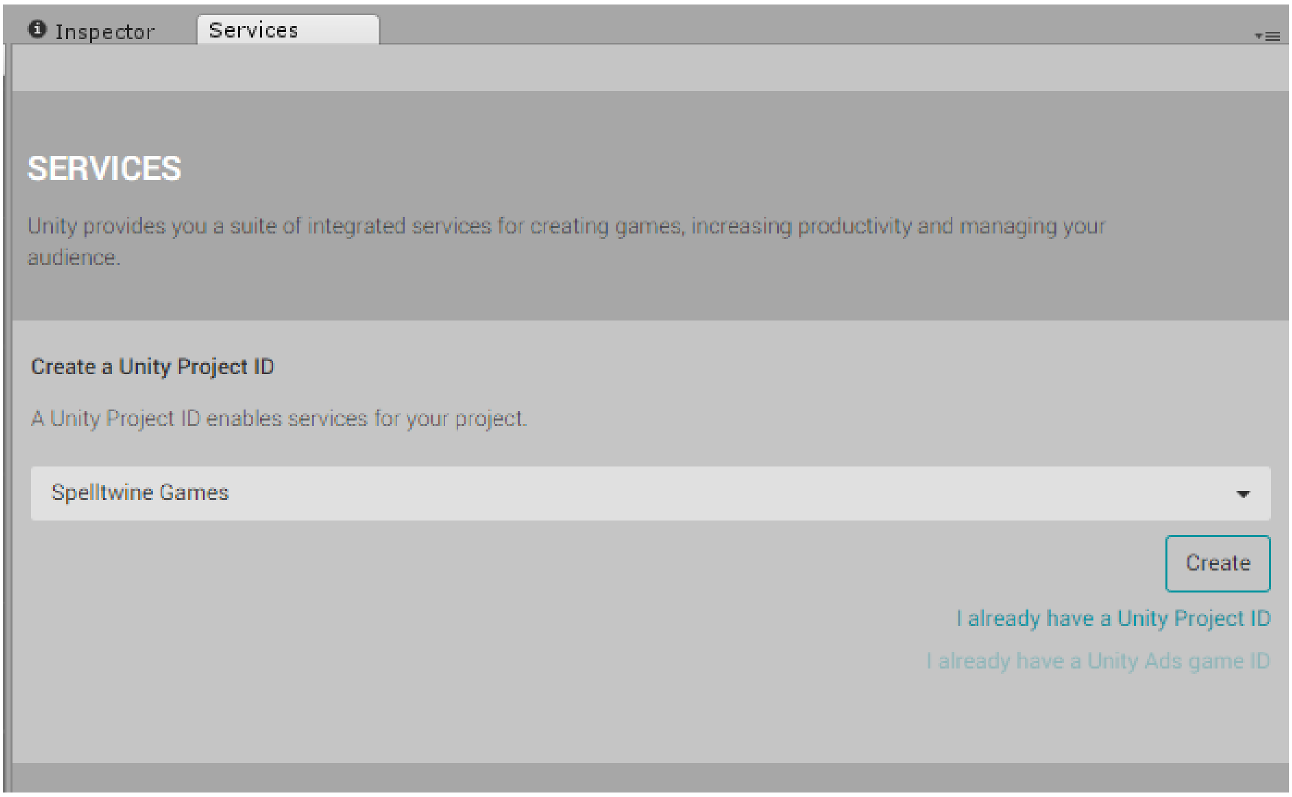
Multiplayer Configuration
Maximum global CCU allowed: 100 players
Total CCU used by all projects: 2 players
CCU used by this project: 0 players
Max players allowed per room: 100

UPID: 0A661697-3EBE-4288-9E83-1E396F33A74A
UNET ID: 666802
LAST MODIFIED: 2016-01-12 17:27:59 +0100

Back to your project in Unity, select the Window/Services menu option:



Now, select the "I already have a Unity Project ID" option:



SERVICES

Unity provides you a suite of integrated services for creating games, increasing productivity and managing your audience.

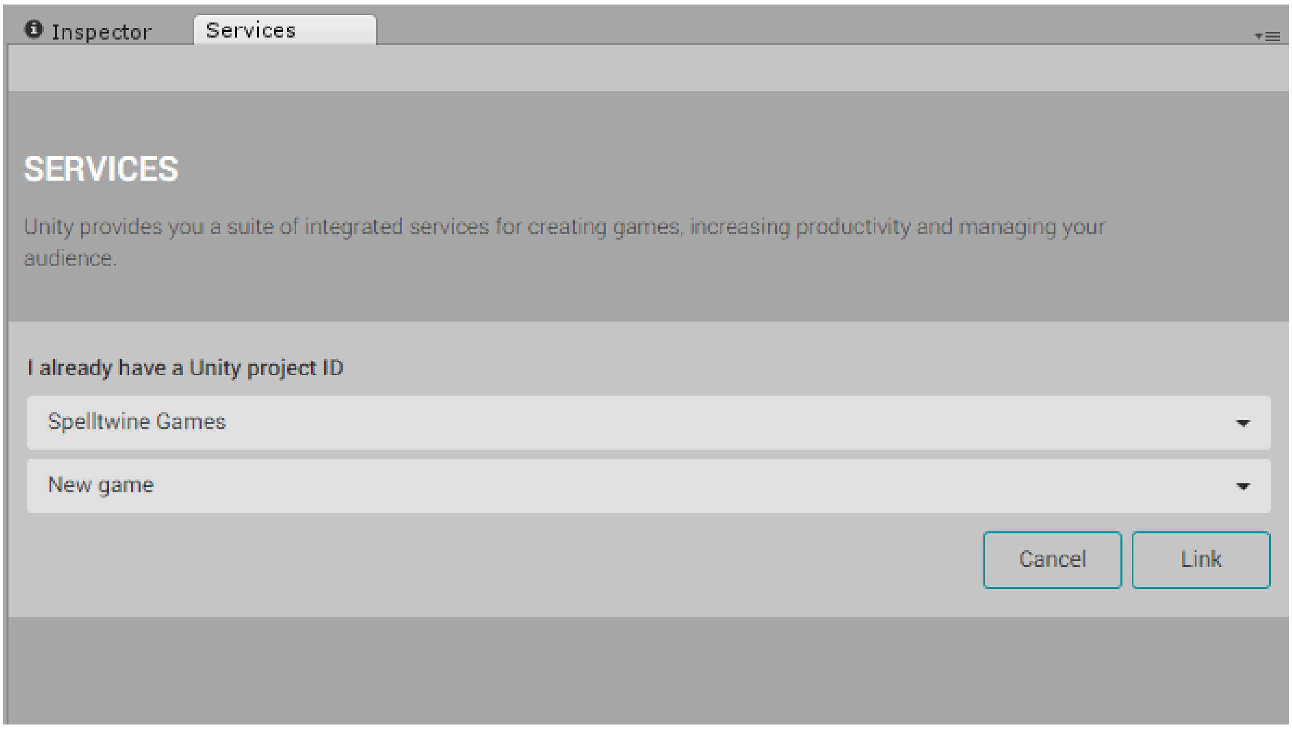
Create a Unity Project ID

A Unity Project ID enables services for your project.

Spelltwine Games

Create
I already have a Unity Project ID
I already have a Unity Ads game ID

Finally, select the project you just created and click on the "Link" button:



SERVICES

Unity provides you a suite of integrated services for creating games, increasing productivity and managing your audience.

I already have a Unity project ID

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New game

Your project is now configured to use Unity's multiplayer services. If you want to play with the demo game, just remember to add all the scenes located in Demo/Scenes to your build settings (please note MainMenu should be the first scene to be loaded).

Server

CCG Kit includes a complete server with player registration/login, rankings and purchasable card packs functionality written in Node.js. If you run the demo game, you will be prompted with a login popup where you can register a new player and log into the server with it. This is a completely optional step and you will be able to play games with an automatically-provided default deck if you select the 'Guest' option. Extensive information on how the server is implemented and how you can set it up on your machine can be found at the online documentation.

Online documentation

You can find the complete, most up-to-date documentation for CCG Kit here.

Support and feedback

If you have any question or suggestion, please do not hesitate to let us know! We are happy to help you and we want CCG Kit to be the best kit for developing multiplayer collectible card games in Unity. You can reach us at support@spelltwinegames.com (please make sure to also include your invoice number).

Thank you and enjoy CCG Kit!

Version history

Version 0.7:

- Upgraded project to Unity 5.4.1.
- Implemented the ability to define/customize the turn sequence using the visual editor.
- Implemented a new effect to move cards between game zones.
- Generalized player triggers in card effects.
- Added the possibility to define a default card collection for new players in the server.
- Implemented a "when card attacks" trigger in the demo game.

Version 0.6:

- Upgraded project to Unity 5.4.
- Implemented support for effects in card definitions. This makes it more convenient to create effects that should be applied to all cards of a given type (e.g., kill conditions).
- Implemented support for specifying conditions in effect triggers.
- Implemented support for random values in effects (e.g., "deal a random value between 3 and 5 of damage to target player").
- Implemented support for random target players and cards in effects.
- Implemented a game zone editor. This is the initial work on this area and future updates will expand on it (e.g., by adding support for effects that target specific game zones).
- Implemented a 'Play now' option in the demo game.
- Renamed 'offline' mode to 'guest' mode in the demo game.
- Added a setCurrency function to the persistent data server.
- Fixed several bugs in the visual editor that prevented changes in card definitions to be applied to the specific cards.
- Fixed bug in the demo game's deck editor scene that made it possible to put more copies of a given card in a deck than the maximum allowed number.

Version 0.5:

- Implemented a new JSON-based format for storing the game configuration.
- Implemented new card effects: token generation and card transformation.
- Implemented rarity system for card packs.
- Implemented virtual currency for purchasing card packs.

- Implemented new turn-based triggers for card effects.
- Implemented additional condition types for card effects.
- Implemented in-game chat in demo game.
- Implemented drag-and-drop support in demo game.
- Cards in the demo game now show their subtypes.
- Improved the destruction flow of network cards.
- Fixed player server errors when trying to register a new player with an already registered email address or username.
- Fixed automatic discard of cards from hand at the end of the turn.

Version 0.4:

- Implemented single-player mode in demo game.
- Implemented 'current card' as an effect target option.
- Implemented audio manager for better management of music and sound effects.
- Fixed bug when switching between different game configuration assets for the first time in the visual editor.
- Fixed bug where triggered effects could target the wrong player in very specific scenarios.
- Upgraded Unity version to 5.3.4.

Version 0.3:

- Implemented server with player registration/login, rankings and purchasable card packs functionality.
- Implemented effect conditions, which allow you to define the criteria that must be met by the effect target/s in order for said effect to be applied.
- Implemented card subtypes, which allow you to easily tag your cards.
- Implemented support for mobile devices.
- Implemented the ability to set the minimum/maximum deck size and maximum hand size.
- Improved visual editor usability.
- Added background music and basic sound effects to the demo game.
- The deck editor screen in the demo game now shows the amount of cards of each type in the current deck.
- Upgraded Unity version to 5.3.3.

Version 0.2:

- Implemented triggered effects.
- Implemented zoomed card view in the demo game.
- Implemented LAN game support in the demo game.
- Improved the implementation of the visual CCG Kit editor.
- Implemented the ability to specify the maximum number of copies of a card in a deck in the CCG Kit editor.
- Fixed scrolling issues in the CCG Kit editor.
- Fixed players sometimes not being selectable as valid attack targets in the demo game.
- Upgraded Unity version to 5.3.2, which brings important fixes to UNET.

Version 0.1:

- First release.