

PADLOCK SYSTEM V1.2  
DOCUMENTATION

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## Introduction

Thank you for purchasing the “**Combination / Padlock**” system, this is a Raycast based system where the aim is to interact with a padlock and cycle through the combination spinners to find the correct combination to unlock it. Each of the combination spinners has their own number that you can set, and the “PadlockController” script controls the combination you can use to unlock it. It’s very easy to setup and even allows for more than one padlock per scene.



The asset includes:

- Raycast system that detects the padlock to bring up the large interact-able version in front of the camera.
- Add as many padlocks as are desired for your game.
- 4 spinner combination system with a 4 code string.
- PBR Padlock with brass / dark metal textures included.
- Animated latch to show the combination has been entered correctly.
- PBR door with basic animation and open script provided.
- Scripts which can be easily modified.
- Sound effects for the system are included.

## FAQ

### **Q). How do I Import the asset?**

A). Go to the Unity asset store and visit your “**My Assets**”. Download the asset if not already downloaded and click “**Import**”, import all required features of the asset for your use. It should have appeared in your project under “**Combination / Padlock System**”. (If Unity warns you that you may overwrite project data, do not choose the “**Project Settings**” tickbox when importing the asset)

### **Q). Before you start / Why isn't my character moving in the demo scene?**

A). **AS PER MARCH 2020:** Unity have deprecated Standard Assets on the Unity store unless you have previously downloaded them, so I have added the FPSController package directly to the upload so you should have no issues at all! 😊

### **Q). Is there an example of this asset working?**

A). Yes, you can open the “**PadlockDemo**” to see the padlock asset in action or use this scene as your initial base of your project.

### **Q). How can I manually setup this asset?**

A). See the manual setup instructions on [“Page 2”](#).

### **Q). I'm having trouble getting the interaction to work. What can I do?**

A). Make sure your Interactive objects have the “**Layer**” at the top right of the inspector as “**Interact**”, and the appropriate tags are added to each. See setup for more details.

### **Q). How can I use a different Character Controller with the padlock system?**

A). Check the [“Extending the padlock system”](#).

### **Q). How can I add more than one padlock set to my scene?**

A). Check the [“Extending the padlock system”](#).

### **Q). How do I change the material of the padlock?**

A). Check the [“Extending the padlock system”](#).

### **Q). Can I use this asset with a 3<sup>rd</sup> person character with this asset?**

A). Yes, all you need is to use the trigger event and add the “**Padlockrigger**”. See additional note for details!

### **Q). My managers don't stay between scenes properly?**

A). Take make these work best, they shouldn't be in an empty game object, but loose within the hierarchy. This is just how the Don'tDestroyOnLoad works, I only put them with a managers parent gameobject to keep it looking neat and tidy!

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## Patch Notes

### Version 1.0 – February 2020

- Initial Release

### Version 1.1 – March 2020

- UI Changes:
  - o Updated package to Unity 2017.4 (As per Unity Rules)
  - o Added FPSController to package (As per Unity rule change)

### Version 1.1.1 – May 2020

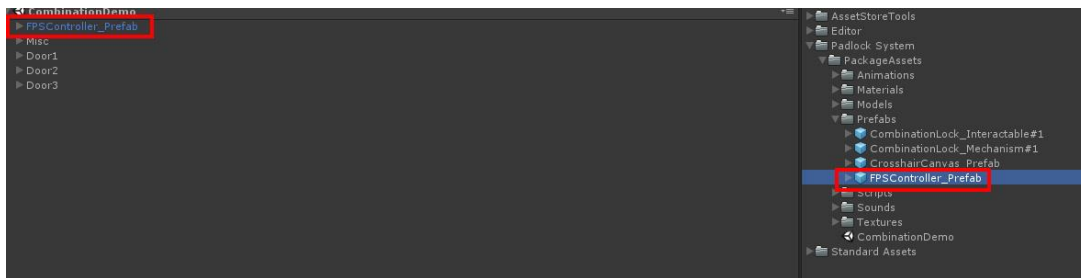
- General Fixes
  - o Added namespaces to scripts to stop any clashes with other projects
  - o Added a new LayerMask called “LayerToExclude” which will allow you to add a layer to a wall or door (For example) and stop the raycast going through.
  - o Updated demo scene FPSPrefab and general prefabs to be more consistent

### Version 1.2 – July 2020

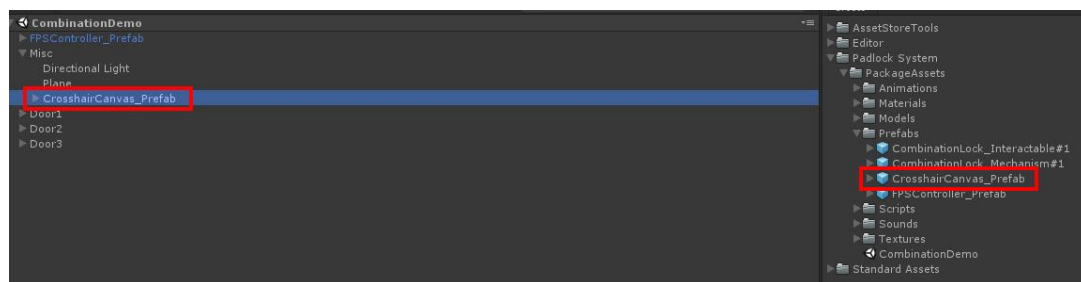
- UI Changes:
  - o Added a button prompt when using a “Trigger Style” event for 3<sup>rd</sup> person style interaction
- Scripting Changes
  - o Updated the Padlock Controller to incorporate “**UnityEvents**” to make successful code interaction multi-use, meaning you can produce multiple outcomes with ease
  - o Added a new Audio Manager, so more sounds can be added and called within script
  - o Added a new input manager, which allows easy control of all inputs from one place
  - o Refactored the Raycast, PadlockController, ScriptSpinners and more!
- Miscellaneous
  - o Updated and edited sounds, textures and materials
  - o Added new manager examples to the prefabs and demo scene
  - o Update all prefabs and set them to 0, 0, 0 for future use
  - o Added an additional Trigger Style interaction with 3<sup>rd</sup> person or possible first person instances.

## Manual Setup – Initial #1

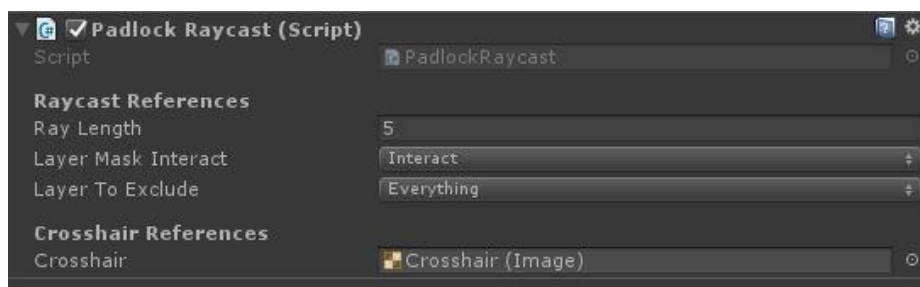
1. When starting your new project, you will need the Standard Assets – FPSController package, I have added this to the pack! Add the “**FPSController\_Prefab**” from the “Prefabs” folder to your scene. You can drag this into the hierarchy or the main scene. Please navigate to the scripts folder and add the “**PadlockRaycast**” script to your “**MainCamera**”. (If not already from the FPS\_Prefab I have provided.



2. Now drag the “**CrosshairCanvas\_Prefab**” from the “Prefabs” folder into the hierarchy. **NOTE: Only drag this prefab into the hierarchy, not the scene.**

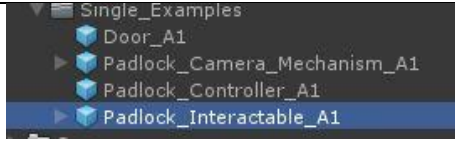
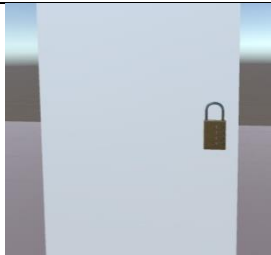


3. Add the one crosshair canvas components to the “**FPSController**” > “**MainCamera**” “**PadlockRaycast**” crosshair slots in the inspector.
4. Make sure the “**Layer Mask Interact**” is set to “**Interact**”. **NOTE: If this isn’t available in the dropdown you will need to create it at the top right of the Unity inspector, by choose the “Layer” dropdown and choosing “Add Layer”. Once you create the layer it should auto fill the LayerMask box in the inspector! You could also set the “LayerToExclude” to “Everything” unless you want to exclude walls from the raycast!**

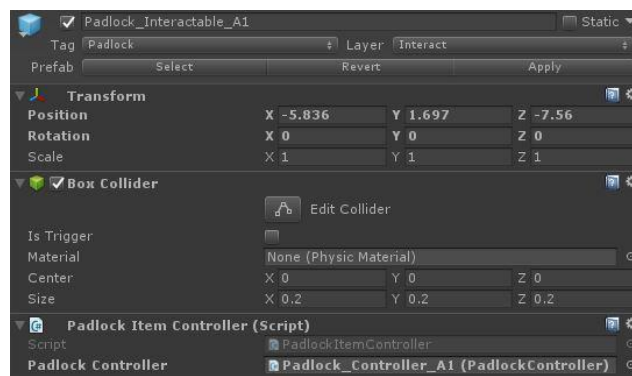


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5. Add “**Padlock\_Interactive**” to your hierarchy or scene from the assets “**Prefabs**” folder.  
Add this asset wherever you want in your scene. See the example below:

	
<p>This is the prefab</p>	<p>Add the prefab to your scene and it is the initial interactive object, so add it in front of your door, chest, locker or whatever you decide to use!</p>

6. **NOTE:** Make sure your “**Padlock\_Interactive**” has a “**Box Collider**” and the “**PadlockItemController**” script should already be on the prefab. If not, add it from the “**Scripts**” folder. Add the “**Padlock\_Controller**” to the empty slot.
7. **NOTE:** Make sure the “**Padlock\_Interactive**” object has a Tag of “**Padlock**” which you may need to create yourself and the layer “**Interact**” which you may also need to create yourself. Once created they should auto fill for you!



8. Place the “**Padlock\_Mechanism**” in front of your camera and parent it to the camera like the image below. Position the padlock by moving it around in your scene using a half split of game view and scene view to get it into your desired place!
9. Open the “**Padlock\_Mechanism**” object and the children should be named “**Padlock\_Combination#X**” – These should each have a script called “**SpinnerScript**” attached. Make sure to add the “**Padlock\_Controller**” object to that slot (The next step will be adding the controller and set the Row from the dropdown according to the number of the spinner.



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10. Add a “Padlock\_Controller” script to your project, we’ll look at these inspector items shortly.
11. Place the “**Padlock\_Mechanism**” gameobject into the “**Examinable Object**” slot of this object as above.
12. **NOTE:** Make sure each of the “**PadLock\_Combination**” spinners that are on the “**CombinationLock\_Mechanism**” have a “**rigidbody**” (Set to IsKinematic or the spinners will fall), “**boxcollider**” and the “**CombiLockScript**” attached. This is how you can control which row the combination spinner is on. **NOTE:** The prefab should already have these components attached so you shouldn’t need to do anything.



13. Select the “**Padlock\_Mechanism**” Object that you parented and hide that gameobject by going to the very top left of the inspector and unticking it so it will not be available in the scene until we tell it to be. Below I’ll explain the different options.

**NOTE:** Read through the information below and attach the correct GameObjects in the “**Padlock\_Controller**” script in the inspector. See the image on the next page for more details!

**Your Combination:** This is the code order you wish to open the padlock. 4 digits (1-9) only.

**Trigger Object:** Added your trigger event which would have the script “**PadlockTrigger**” – More details in the “Final Notes” section.

**isPadlockTrigger:** Only tick this if you’re using a trigger event and have filled the above slot!

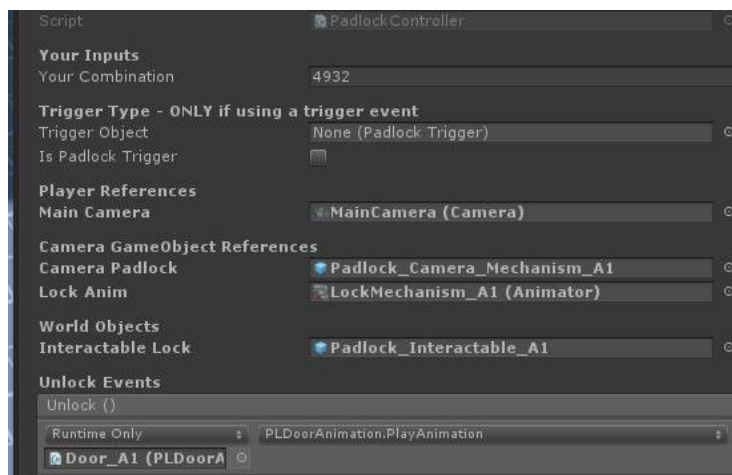
**Main Camera:** Add your main camera for the scene here

**CameraPadlock:** Add the corresponding “**Padlock\_Mechanism**” to this slot.

**LockAnim:** Add the “**LockMechanism**” from the “**Padlock\_Mechanism**” to this slot

**InteractableLock:** Add the “**Padlock\_Interactable**” object to this slot

**Unlock Event:** You can add a gameobject with a script you want to activate when you get the code correct!



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14. You might want to increment the **"Padlock\_Interaction"** and **"Padlock\_Mechanism"** with a **"A1"** and **"B2"** if you have more than one padlock in each scene to make linking up the scripts easier.

For example: **"Padlock\_Interaction\_A1"** and **"Padlock\_Mechanism\_A1"** so you know these two assets are to be used together!

If you have duplicates then name those other assets to:

**"Padlock\_InteractionB2"** and **"Padlock\_MechanismB2"**.

15. Make sure to add the **"DisableManager"** / **"InputManager"** and **"AudioManager"** prefab to your Hierarchy.
16. In the Padlock Controller script you can add the **"PLDoorAnimation"** which will be the door open you want to animate (Provided by me as an example!)



## Final Notes

Your asset is setup and ready to use in your scene, please remember a few things.

- 1). The “**Padlock\_Interactive**” GameObject has a script called “**PadlockItemController**”. Make sure to add the padlock controller that exists as it’s own object to the “**PadlockController**” slot. (If not, you will get errors).
- 2). There are two variations of the same object that are prefabbed, one has the black and the other a brass padlock. Either can be used or you can change the textures on the padlocks by dragging the desired materials from the “**Materials**” folder onto the GameObject. (For more information check out the “Extending the padlock system” below)

### REFERENCING THE AUDIO MANAGER:

- 1). If you click on the audio manager you can add addition elements to the array by incrementing the value by as many sound clips as you want to add, make sure to give them a name you will remember as you will reference this in your code!

- 2). Use the code, within your scripts to reference your sounds to play!

**PLAudioManager.instance.Play(“NAME OF YOUR CLIP”);**

### ADDING A TRIGGER EVENT – Using PadlockTrigger script for 3<sup>rd</sup> person Controllers

- 1). Create a box or other 3D Object, make sure this object has a collider set to “IsTrigger”.
- 2). Add the “**PadlockTrigger**” script to that 3D object and add the keypad object to the inspector slot named “**PadlockControllerScript**”.
- 3). Add your own or the “**InteractPrompt**” gameobject from the Crosshair canvas to the slot, which will have a UI prompt to help you and/or players know when you can interact!
- 4). Then set an input key you’d like to use for the interaction, by default set to “E”!

Remember to take a look at the demo scene if you have any troubles, it might give you an idea on how to fix an issue!

If you find the package helpful, please leave a positive review and star rating as it would really help me out! 😊 If you have any problems, feel free to send an email to me!

## Extending the Padlock System

### I want to do something different when the code is valid:

In the padlock controller script object, this uses “UnityEvents” which allows you to click the “+” icon in the bottom right and then add your own objects with a script with a public method. I have an example in the demo scene, which uses the door object with the “PLDoorAnimation” script!

### How to add another padlock set to the same scene?

Duplicate the “Padlock\_Interactive”, “Padlock\_Mechanism” and “Padlock\_Controller” from your scene and increment the numbers like I mentioned in the Final Notes section.

### I want to change the material on the padlock to the alternative, how do I do this?

Visit the “Materials” folder of the package and look for the folder named “M\_Padlock\_Black” and open the folder. Add the “M\_PadLock\_Combination\_Black” to each of your spinners and the “M\_PadLock\_Main\_Black” to the main body and metal latch of the interact able object and mechanism that resides on your camera or add the prefabs to your scene!

### How do I use another controller with this system?

In the “DisableManager” script we reference the player controller so we can disable the “FirstPersonController” script so when we interact with the padlock we disable character movement and camera rotation. If you’re using a different controller please replace these lines with appropriate for you.

```
public class DisableManager : MonoBehaviour
{
    public static DisableManager instance;

    [SerializeField] private FirstPersonController player;

    void Awake()
    {
        if (instance != null)
        {
        }
        else
        {
            instance = this;
        }
    }

    public void DisablePlayer(bool disable)
    {
        if(disable)
        {
            player.enabled = false;
        }

        if(!disable)
        {
            player.enabled = true;
        }
    }
}
```

## Contact

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Make a small donation: <http://www.paypal.me/speedtutor>

If you have any problems with the pack, or have some ideas for new models you'd be interested in, please feel free to contact me.

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