

Adding a Badge to your Character

Adding a badge to your character is strictly optional and you do not have to wear a badge to enjoy the convention.

In order to add a badge to your avatar, you will need a few things.

- an avatar file which you can upload (legally owned by you)
- a copy of the Furnal Equinox badge for your role (Attendee for most of you)
- a copy of the Unity 3D editor version 2018.4.20f1
- a VRChat account with enough play time to be allowed to upload avatars

This tutorial will cover the VRChat Avatar SDK version 3. If you have an older avatar, the process is similar.

There are many great free furry avatars on Booth. Today I'll be using this cute cat avatar.

<https://booth.pm/ja/items/2454360>

We are now going to go over the basics of importing an avatar. If you already have an avatar set up and ready, feel free to skip to the timecode currently on screen.

[The following section we can either skip or keep in, but it covers setting up a basic avatar.]

Basics of uploading an avatar

In order to upload your avatar, you will need to import the VRChat Avatar SDK. Browse to <https://vrchat.com/home/download> to get yours.

Make sure you select the button "Download SDK3 - Avatars".

Once that is downloaded, make a note of where that file is on your computer. In my case it went to my user's Downloads folder.

Now we will need to open Unity Hub, and click the down arrow ****beside**** new. Don't click new, as it might create a project with the wrong version. We need to select the down arrow and select 2018.4.20f1 from the list.

Give your project a name and select a place to put the avatar.

Once you click Create, your computer will go to work for a while setting up the new project, and it will load into a screen like this.

Importing your avatar

[An info box shall be displayed saying, "Additional asset setup is an advanced topic, and potentially out of the scope of this tutorial. Refer to VRChat.com for more details."]

"Dynamicbones" might be required for your avatar. There are other scripts which might be included in avatars but not distributed with them. If that's the case, make sure you import those scripts **first** before importing your model.

We need the VRChat Avatar SDK added to our project next.

In the top menu bar, select Assets, then hover over Import Package > and select Custom Package...

Now we will navigate to the Downloads folder to find our VRChat Avatar SDK file.

Select the file, and click Open.

You will see a dialogue box like this. All items should be selected. If not, click All, and then click Import.

Your computer will work on it a bit and then you should have a new folder in the Project view called VRCSDK.

Next, import your model.

Go do the Downloads folder again, and extract the avatar ZIP file. Inside it you will find two UnityPackage files. Select the one with 3 in the name.

Click and drag that file into the Unity window over the Project tab. This will import the new files just like before.

Once that is complete, you should have a few new folders in your project.

Drag a copy of the model into your scene and it should look like this.

First thing to do with your avatar is to select the type of skeleton (the armature) of your avatar. VRChat uses a Humanoid skeleton for all avatars. Yes even for feral anthros. If you want to be able to control the movement of your avatar, you need a Humanoid avatar rig.

Select the model in the Project tab.

In our case, the hosineko avatar model is in the fbx folder and is called hosineko.

The right hand side of your screen will have a few tabs showing. We want the Inspector tab. Click that and you will see a few sections at the top of it.

Model, Rig, Animation, and Materials.

Right now we're interested in Rig, so click Rig.

Animation Type is probably set to Generic. We need to change this value to Humanoid.

Now click Apply.

Once applied, we can click Configure. On the configure screen we don't have to do anything special for this avatar, but keep in mind that VRChat has specific requirements for the rig. If your avatar is set up properly like this one, you don't have to worry about it.

Next thing you need to do is to add a VRC Avatar Descriptor to that avatar. So you'll need to click on the avatar in the Hierarchy. Then in the Inspector tab, you'll see some options. You want to "Add Component".

There is a box here for you to type in. Type VRC and you should see VRC Avatar Descriptor in the list. Select that one.

Now we need to set the height of the avatar's eyes. This is called the View Position. You can control the view of the scene by holding down the right mouse button.

Now, locate the model in the Hierarchy and double click it to zoom in.

Hold down the right mouse button and move upward. You will see a little white circle floating above our kitty. That circle represents our view in the game.

In the Inspector again, under View Position, set the Y value to 0.69. Nice.

This puts the circle directly between the character's eyes. Always place the circle between your character's eyes for best results.

Next we must set up our character's mouth movement. That is typically controlled by Visemes.

Under LipSync you can set up your visemes automatically!

To set up the Visemes, click "Auto Detect!"

For this model, the visemes are properly set in the model file, so the VRChat SDK is able to find them.

Next, enable Eye Look by clicking the big Enable button.

This character does not have traditional eyes, so we can't set those up, but we can set up the blink control.

Set up the Eyelids Mesh by clicking the tiny circle beside Eyelids Mesh.

In the dialogue box that appears, select Body.

Now there should be 3 pulldown menus under Blendshape States: Blink, Looking Up, and Looking Down.

We only want to set Blink for this avatar.

Select the pulldown menu and find the second option from the bottom. In Japanese it says “nagomi” or “calm”.

Select the dropdown beside both Looking Up and Looking Down and set them both to None.

Once you have an avatar project set up like this, we are ready to add the badge.

Adding the badge

To add the badge to your avatar, we will need to import our badge UnityPackage.

In the top menu bar, select Assets, then hover over Import Package > and select Custom Package...

Now we will navigate to the Downloads folder to find our badge file.

Select the file, and click Open.

You will see a dialogue box like this. All of the items in the package, including 3 files and a few folders will be selected. We want to click Import now.

Your computer will work on it a bit and then you should have the badge imported into your project. Now we have to put it on our model.

You will notice a new folder called Props in your Project view.

We want to open Props, then open Badges, and finally open Prefabs.

Your badge prefab will be in here. Click it. Now I can see a little preview of what the badge will look like. Looks great!

Now we need to focus our attention on the model. Find the model in the Hierarchy tab. Click the little arrow beside it to open it up and show the items inside. One of those items will be your armature, which has all of the bones of your avatar.

Click the arrow on Avatar.

Click the arrow on Hips.
Click the arrow on Spine.
Click the arrow on Chest.

Now you should have the Chest bone showing in the Hierarchy. Let's go back to the Project tab. We want to click-and-drag the badge prefab into the Chest bone.

What this does is it will bind the position of your badge to always move with your chest.

Wow... it's a little big! It's also inside our model. That's not right, but no worries. We can fix that in a jiffy.

You can see there are arrows attached to the badge. With these arrows, we can click and drag the badge into position. If you do not see the arrows, press W with your mouse positioned over the Scene view. It will change into the arrows.

Moving around in the 3D View of the Scene tab is very simple. Hold down the right mouse button and use W, A, S, and D to shift your view around, moving the mouse left and right to look.

To move up and down you can use Q and E.

Let's position ourselves beside the model and click the blue arrow to move the badge forward until it is in front. If you want your badge somewhere else, go ahead and drag it there now.

I'm going to position myself back in front of the model and place the badge a little to the left. Perfect!

It's still too big! Well that's no problem. We now want to scale it by pressing R with your mouse over the Scene view. This turns the arrows into a set of boxes. That's how you know you're in scaling mode.

We want to scale evenly in all directions, so click the middle box, and move it until the badge size looks right.

Testing

Now that we've positioned the badge where we want it, let's test it out in VRChat.

In the menu bar, select VRChat SDK.
Select Show Control Panel.

The VRChat Control Panel allows us to upload and manage our models and worlds.

Log in to your VRChat account. It's the same username and password as you use to play the game.

Click the "Builder" button and you will be presented with this view.

Let's "Auto Fix" any warnings that show up and we can ignore the others for now.

Click the Build & Test button. This will take a while.

When it is done, you will see a dialogue box like this.



Now it's time to open VRChat and test it out!

You can now open your Avatars menu and you will see an "Other" section with your new avatar.

Select that avatar and click Change! That's your new badge! Cool!

Uploading your Avatar

Now we need to upload your avatar for real.

Go back to the Builder section again in Unity and select Build & Publish for Windows.

Now it will do a lot of processing. After a while it will ask you for a name, description, and other details. Put those in now.

You can also position the camera how you want or add things to the scene temporarily to make the little picture look nice. Here we're just going to upload it as-is.

Update Avatar

1. Enter a name for your avatar
2. Enter a description for your avatar
3. Adjust the VRCCam gameobject in the scene to capture the desired preview image.
4. Confirm your info and press Upload!

Avatar Name

Upload Image

Description

Content Warnings

Nudity/Sexuality Blood/Gore

Realistic Violence Other NSFW

Sharing

Private

Public

The above information is accurate and I have the rights to upload this content to VRChat.

Check off the checkbox that says the information you entered is accurate.

Now click the Upload button. It will finish the upload process.

Now your avatar will be available in VRChat in your Avatars menu. Enjoy!

Have fun at Furnal Equinox!