Let's make a character with Blender

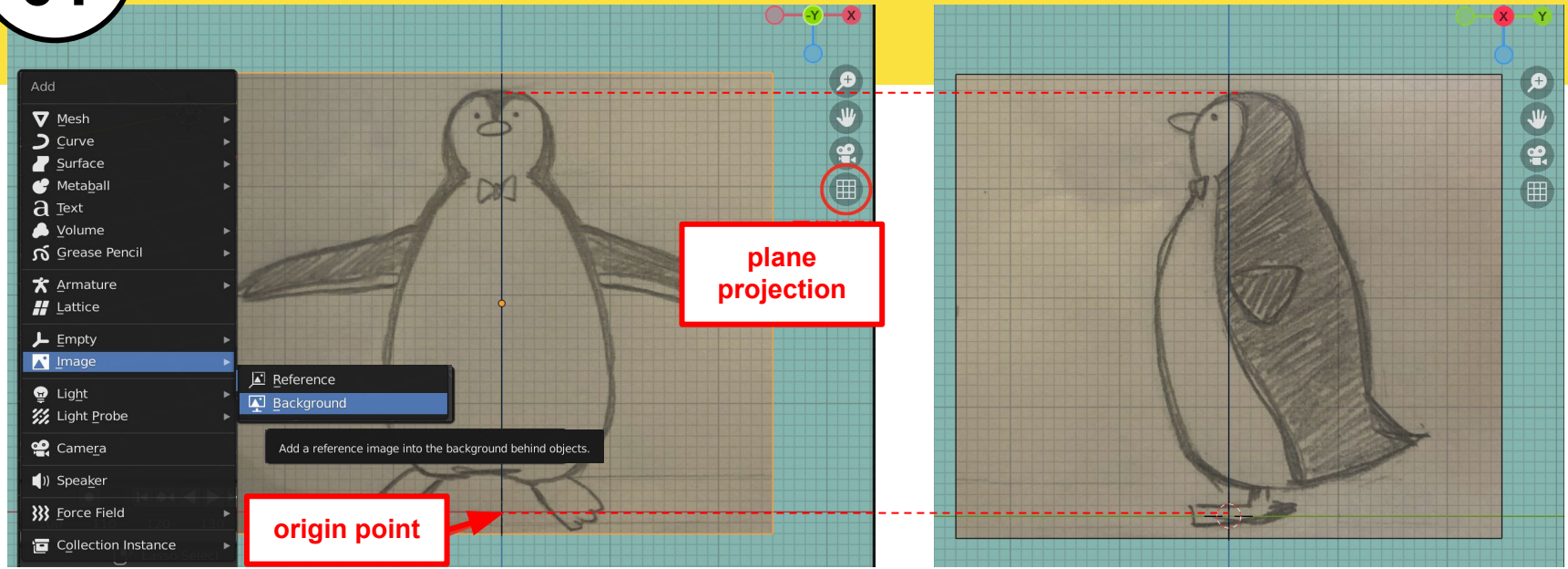
and play with AVATAVI

STEP
01

Import a rough sketch.

Front

Side



01

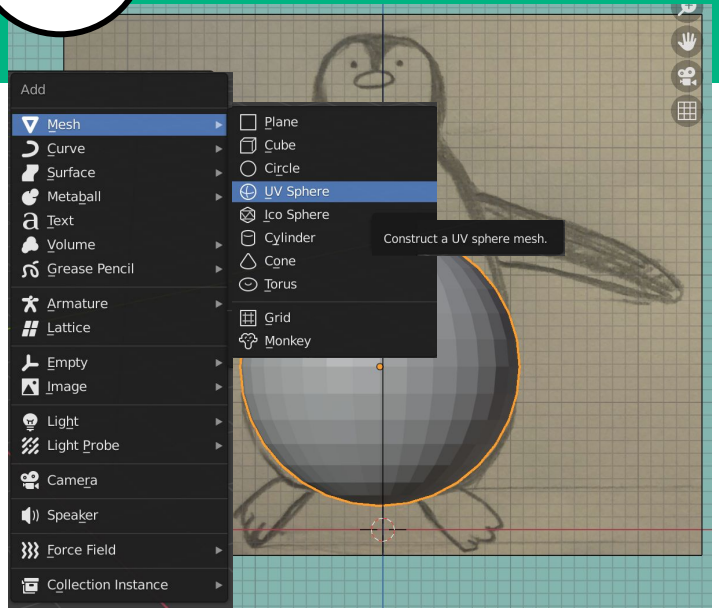
Press the [1] key to display the front view.
Open the Add tab with [shift+A], select any image in "Background" in "Image", and position the image so that the bottom of the foot is at the origin position.

02

Press the [3] key to get the side view, and then press
Press [shift+A] to open the Add tab and place the side view image at the same height as the front view image.

STEP 02

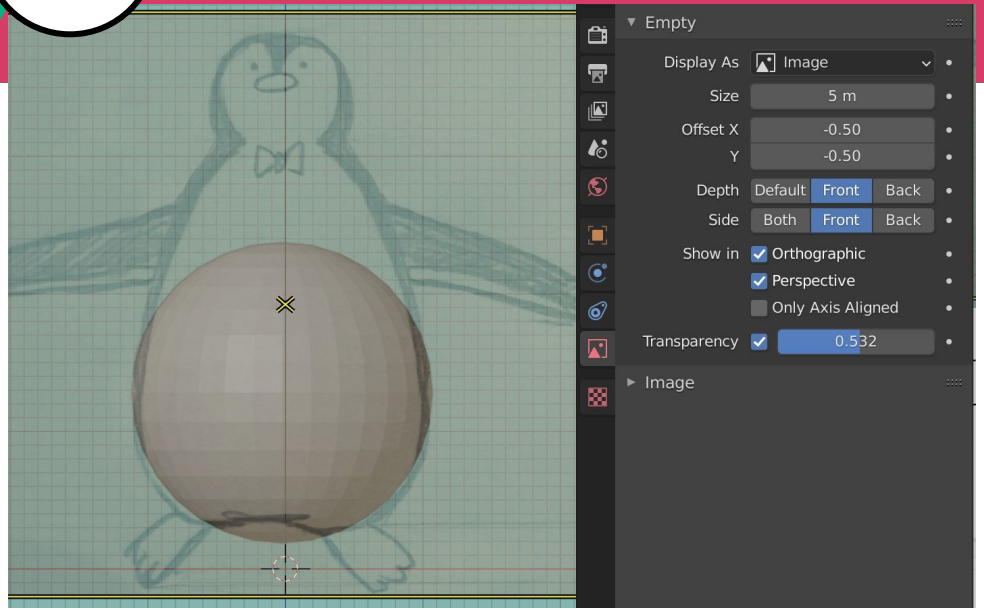
Placing an object.



Open the Add tab by pressing [shift+A] and then Select "UV Sphere" in the “Mesh” section and add an object.

STEP 03

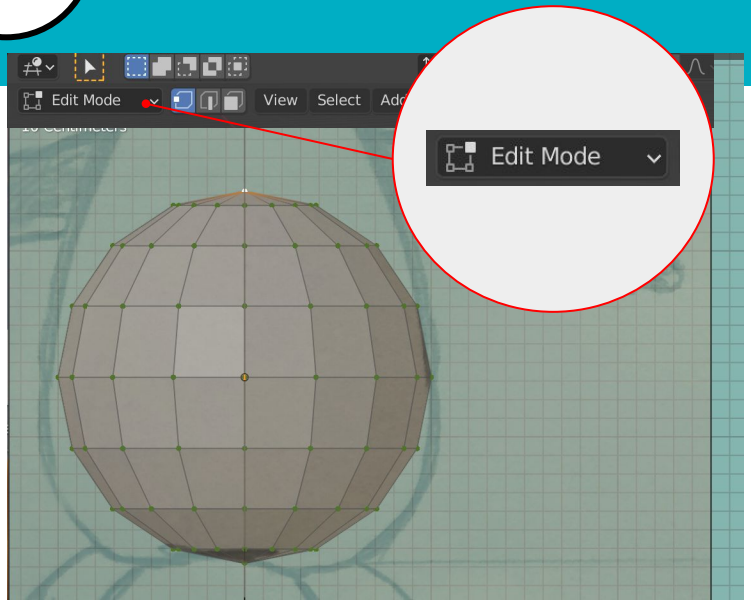
Transparency of a rough sketch.

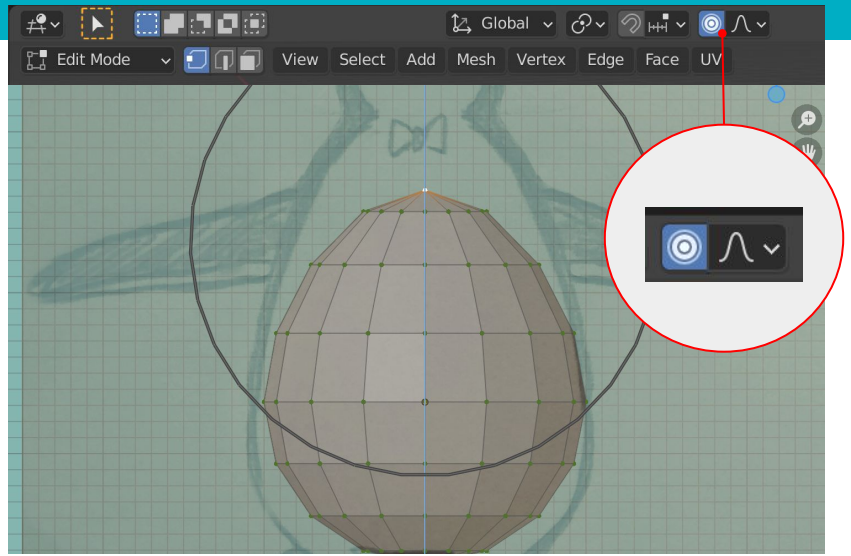


Select the image, open the Object Data Properties tab, set the depth to "Front", make the image appear in front of the object, and check the "Transparency" checkbox to lower the value to make it transparent.

STEP
04

Modeling





01

Select an object and press the Tab key to enter edit mode and edit the mesh.

02

- The [G] key is used to move vertices.
- Press the Proportional Edit button in the upper right corner to move a vertex, which will deform the entire object.
- By moving the wheel, you can change the size of the circle that represents the area of influence.

STEP
05

Frequently used shortcut keys (Modeling)

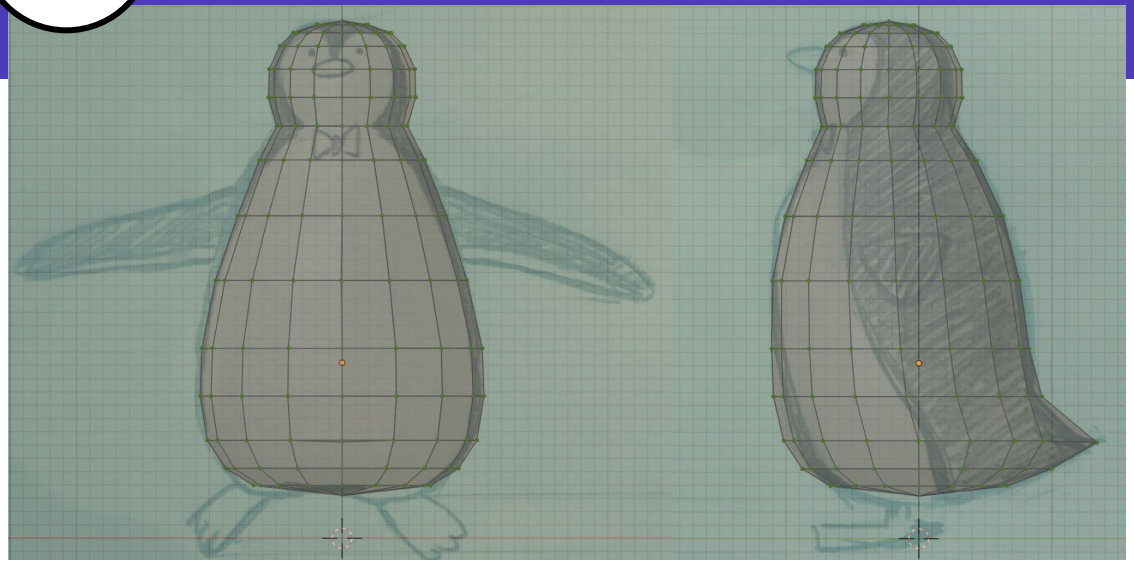
[shift]＋[a]	Add Objects
[Tab]	Toggle between edit mode and object mode
[g]	Move an object
[s]	Scaling an object
[r]	Rotate an object
[shift]＋[d]	Duplicate an object
[x]	Delete an object
[f]	Connecting vertices and edges of objects, pasting faces
[e]	Extrude object vertices, edges, and faces
[command]＋[r]	Loop Cut
[command]＋[b]	Bevel

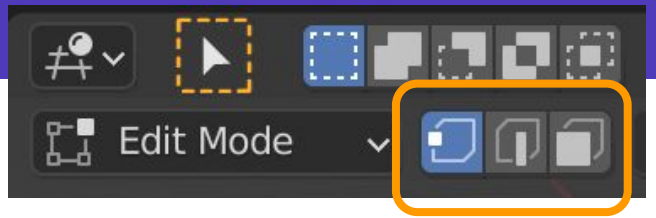
Frequently used shortcut keys (Select)

[shift]＋[click]	Selecting multiple objects
[a]	Select all objects
[w]	Select by specifying a selection. (*Release the mouse to deselect.)
[c]	Select by specifying a selection. (*Continued selection is possible even when mouse is released）
[b]	Select object with rectangle
[control]＋[Right-drag]	Select objects in any shape
[control]＋[i]	Invert a selected portion of an object
[l]	Select the entire mesh of an object in edit mode
[control]＋[＋]	Increase the selected portion of an object in edit mode
[control]＋[—]	Reduce object selection in edit mode

STEP
06

Modeling





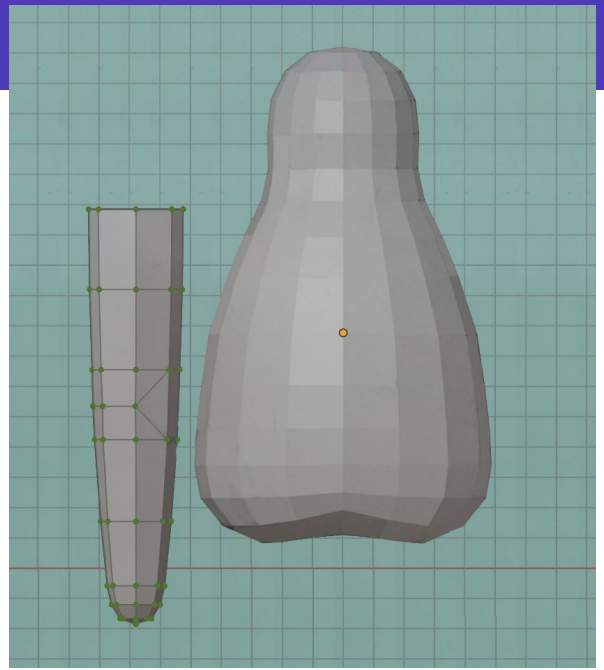
This button toggles between vertex selection, edge selection, and face selection.

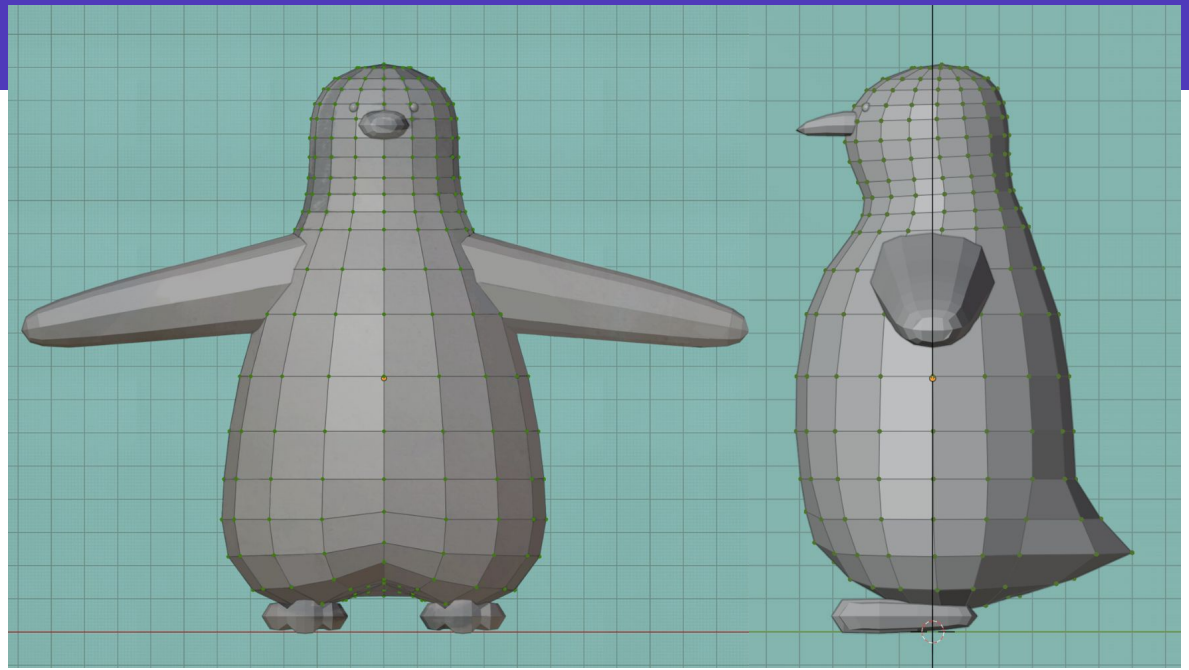
01

Modeling will proceed based on the front and side drafts, making full use of loop cuts and bevels.

*Please refer to the shortcuts on the previous page.

Modeling



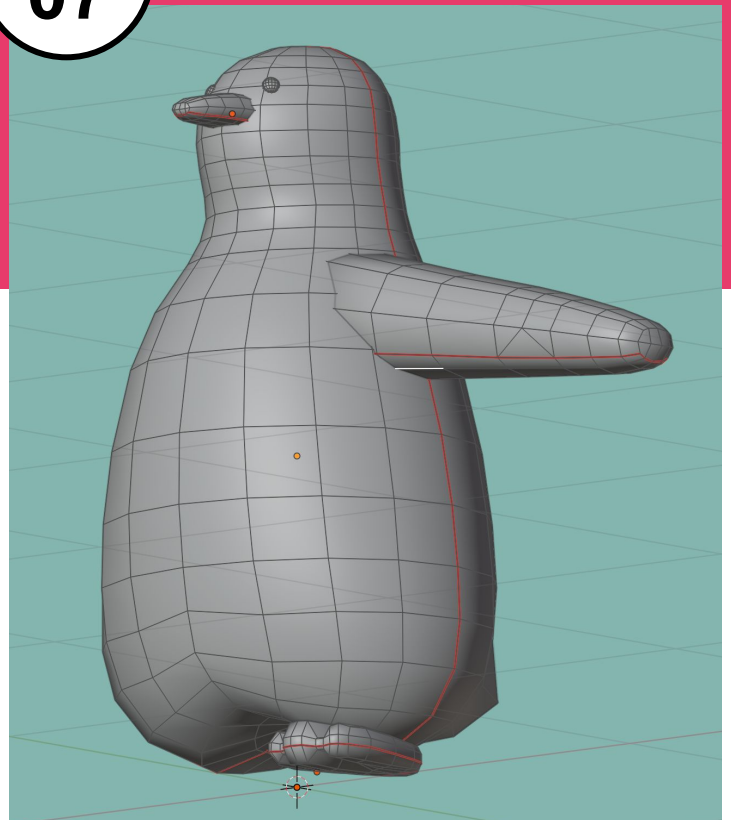


02

Use [command+A] to add objects and create hands and feet.

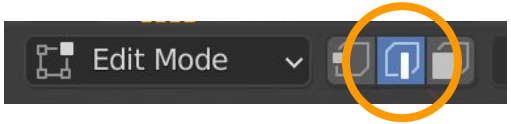
STEP
07

Add texture



To add color to the penguin, we will show you how to paste an image instead of applying color directly to the model.
First, we designate the area where the scissors are to be inserted so that the surface of the model is opened into a single picture.

*It is important to make the cut in an area where the seam is as inconspicuous as possible.

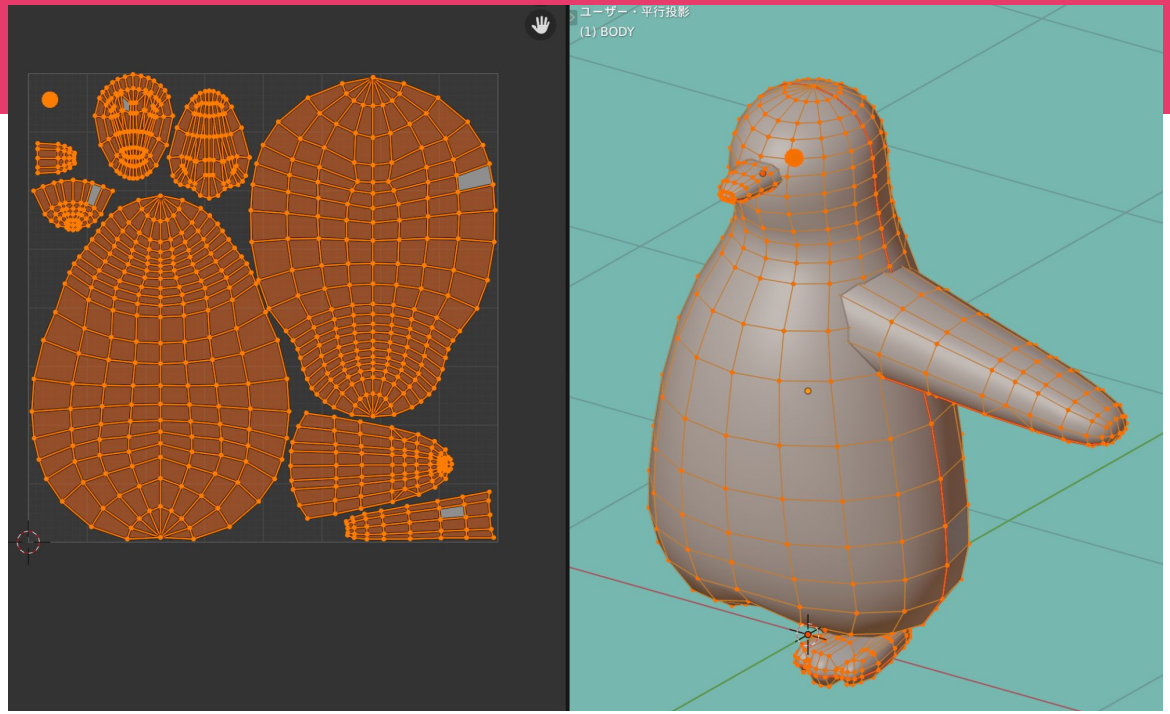


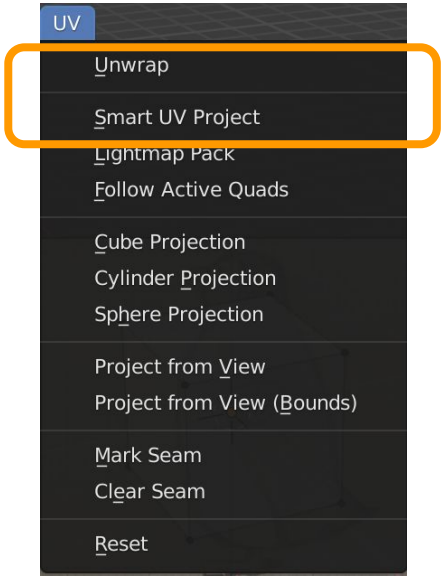
01

Select an edge and right-click to mark the border (seam).

*Smooth object display like in this image can be toggled by right-clicking in [Object Mode] and selecting [Smooth Shade] from the object context menu.

Add texture (uvmapping)





02

Select the mesh and choose "UV" => "Unwrap" or "Smart UV Project" etc. to expand the UVs.

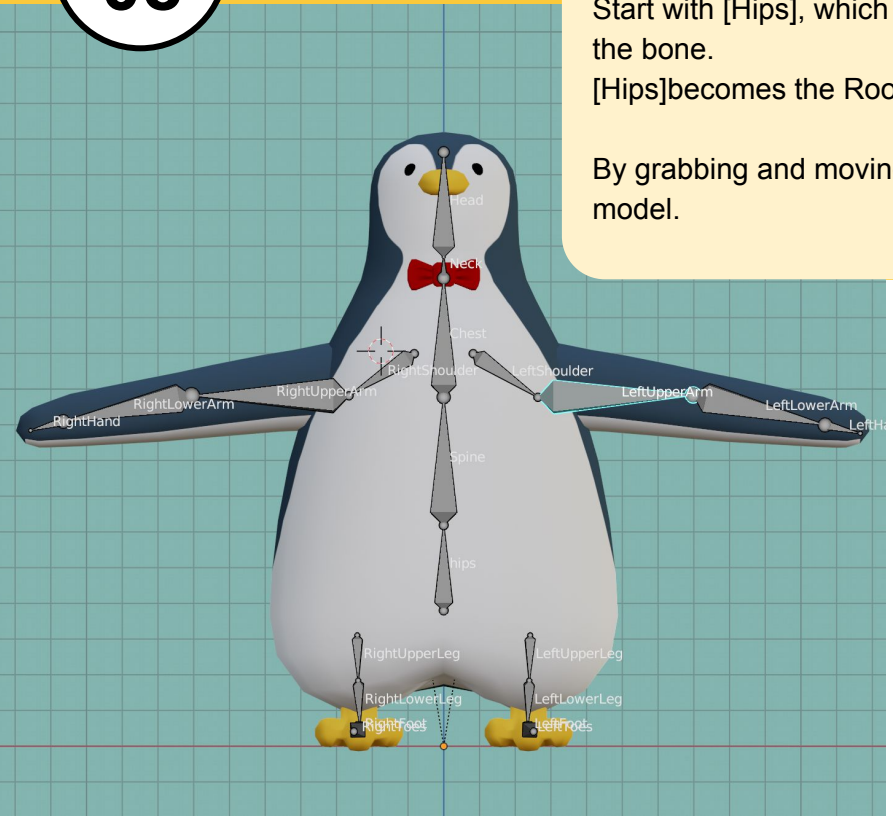
*Specify how you want the model to be deployed cleanly.

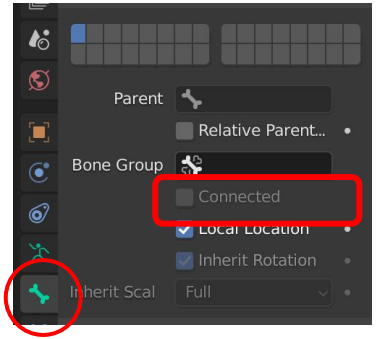
STEP
08

Rigging

Add bones to the resulting model.
Press [Sift]+[A] in object mode to add an armature.
Start with [Hips], which are the hips, and use [command]+[E] to stretch the bone to complete the bone.
[Hips]becomes the Root Bone of all bones.

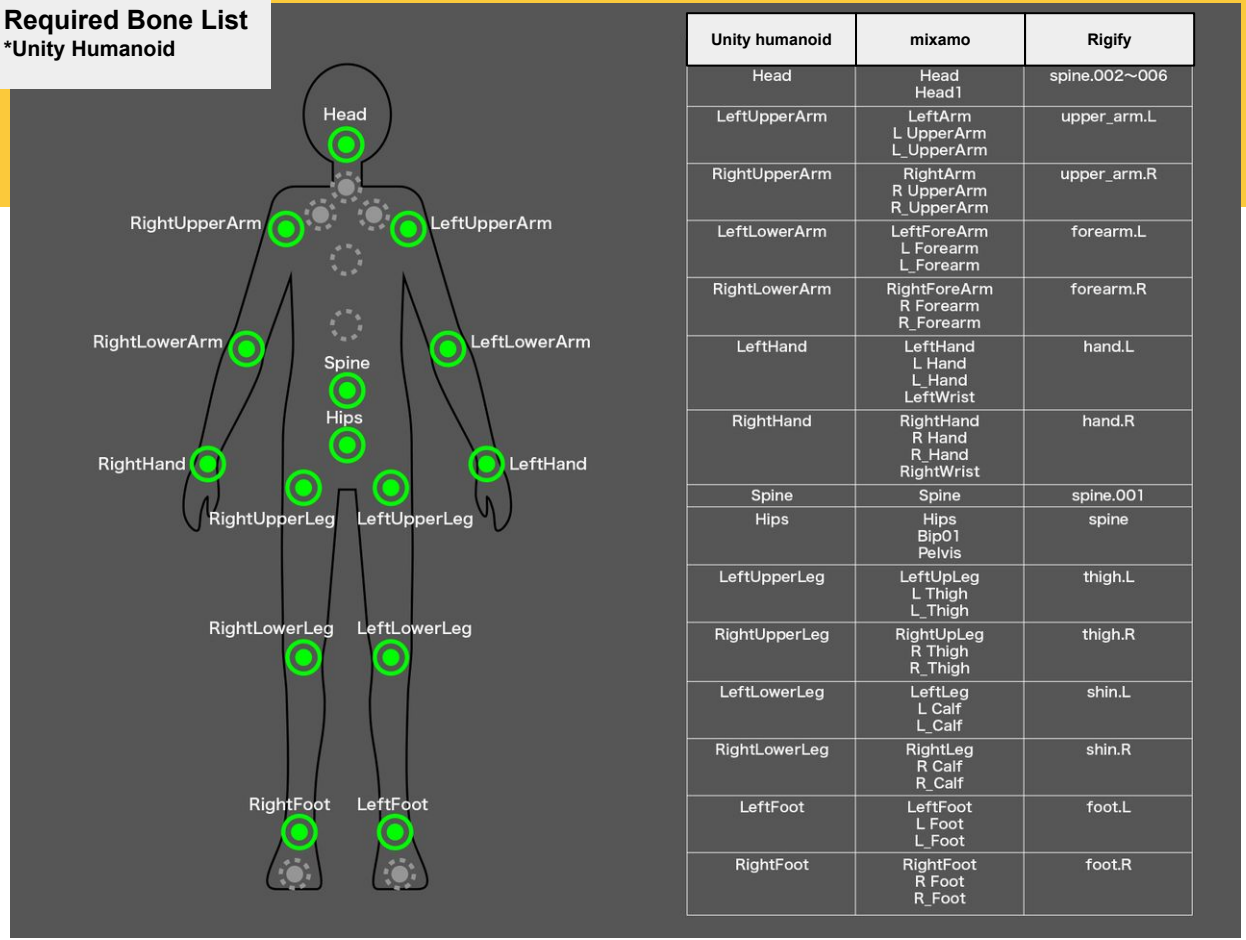
By grabbing and moving the Root Bone in [Pose Mode], you can move the entire body of the model.





If you want to place certain bones apart, such as this penguin's feet, you can select any bone and uncheck "Connect" from the Bone Properties to separate the bones.

Required Bone List
***Unity Humanoid**



Unity humanoid	mixamo	Rigify
Head	Head Head1	spine.002~006
LeftUpperArm	LeftArm L UpperArm L_UpperArm	upper_arm.L
RightUpperArm	RightArm R UpperArm R_UpperArm	upper_arm.R
LeftLowerArm	LeftForeArm L Forearm L_Forearm	forearm.L
RightLowerArm	RightForeArm R Forearm R_Forearm	forearm.R
LeftHand	LeftHand L Hand L_Hand LeftWrist	hand.L
RightHand	RightHand R Hand R_Hand RightWrist	hand.R
Spine	Spine	spine.001
Hips	Hips Bip01 Pelvis	spine
LeftUpperLeg	LeftUpLeg L Thigh L_Thigh	thigh.L
RightUpperLeg	RightUpLeg R Thigh R_Thigh	thigh.R
LeftLowerLeg	LeftLeg L Calf L_Calf	shin.L
RightLowerLeg	RightLeg R Calf R_Calf	shin.R
LeftFoot	LeftFoot L Foot L_Foot	foot.L
RightFoot	RightFoot R Foot R_Foot	foot.R

Names of bones and bones required are in accordance with Unity's humanoid. Please refer to the table on the left.

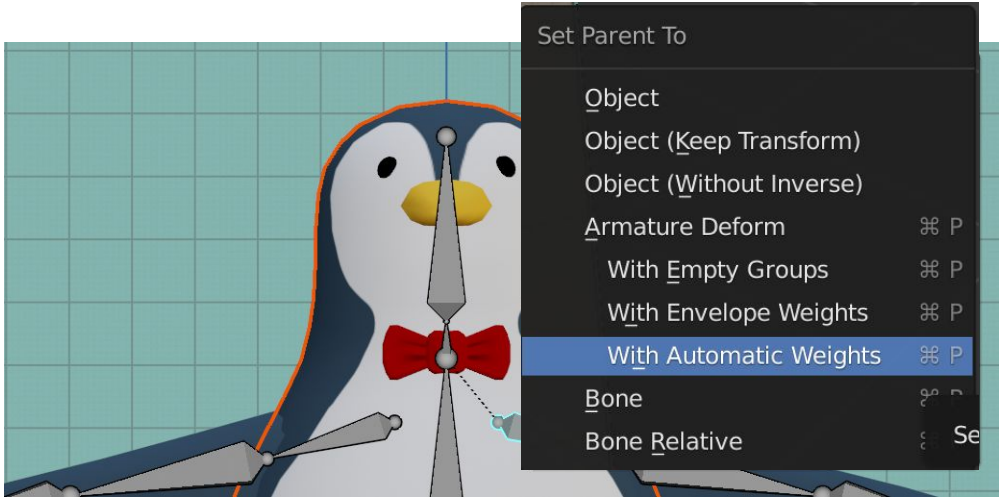
*Note that spelling errors or lack of required bones (green areas) may prevent proper operation.

STEP
09

Associate a model with a bone

Once the bones are in place, let the model make the association.

- With the model selected in [Object Mode], press [Shift] to select the bones.
- Press [command]+[P] to display the menu and select [With Automatic Weights] .
- Once the parent-child relationship of all objects is established, the process is complete.

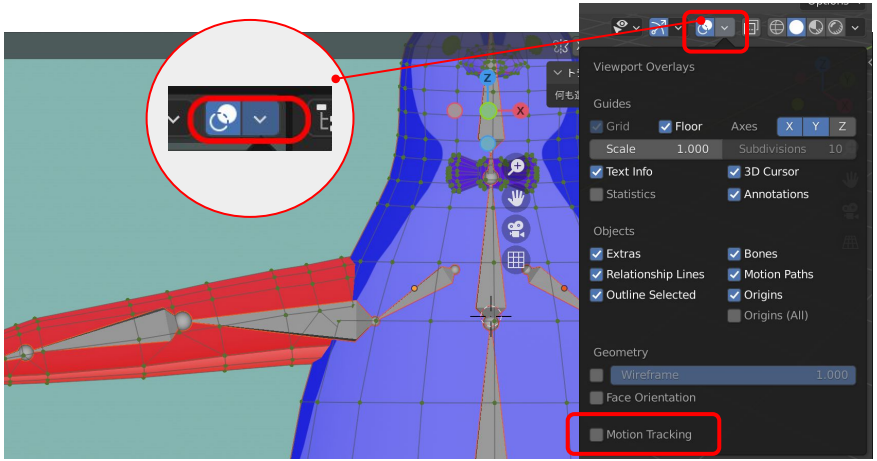


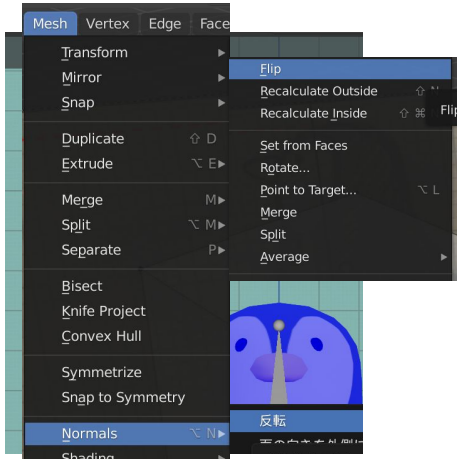
Once parenting is complete, the model can be moved by moving bones in [Pose Mode].

STEP
07

Final checks (Mesh inversion check)

At this point, you should be able to move the model as if it were breathing life into you!
However, there may be problems such as disappearing objects when taking them to other software, so let's check the last part that is often overlooked.





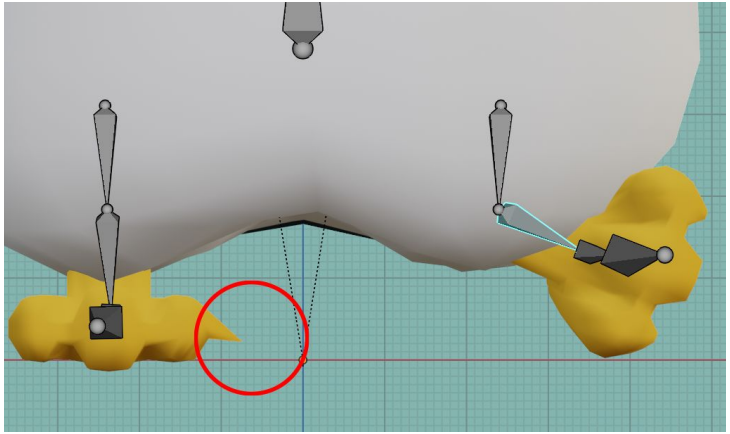
Select the mesh in the red area and click
Mesh => Normal => Flip
to reorient the mesh.

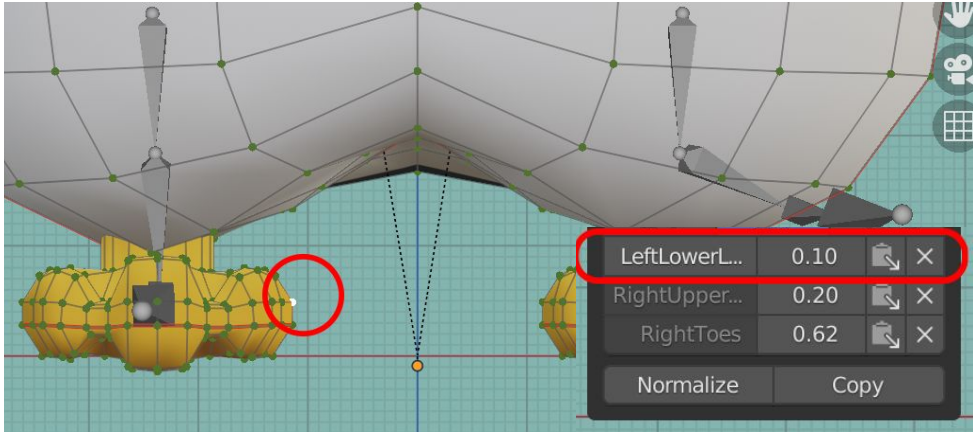
If the reverse side of the surface is inverted, it may not be displayed by other software.

Press the arrow to the right of the "Show Overlay" button in the upper right corner to open the Viewport Overlay menu.

If you check the Face Orientation checkbox, the area where the face is inverted will be displayed in red.

Final checks (weight adjustment)





01

When you move a bone, it may move to an unintended area.This is because the extra bone is affecting that vertex.

02

If you go to [edit mode] and check the vertices that were popping out, you will see that the left leg bone is affected.

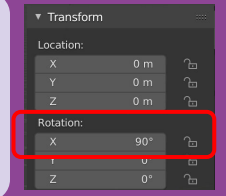
You can remove it by pressing [×] to the right of the bone you do not want affected.

STEP
11

Preparing to import the model into AVATAVI

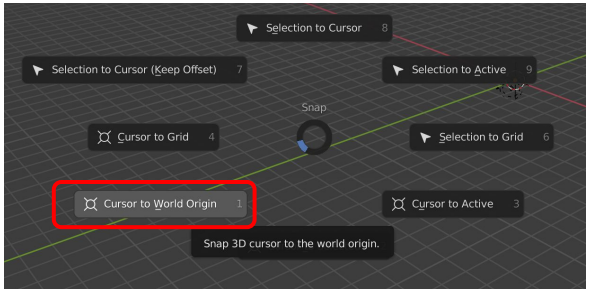
Once the model is created, it is time to prepare it for importing into the correct position in "AVATAVI".

As shown in the figure on the right, the X value in the [Rotation] of the bone transform is set to 90°.

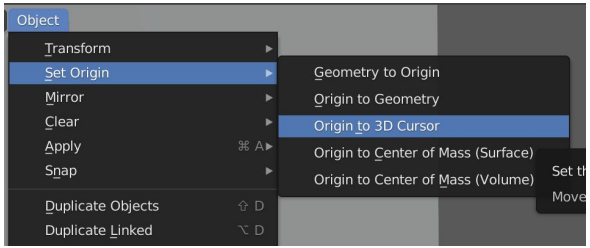


01

Sets the position of the bone origin to the world origin.



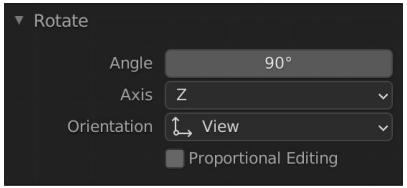
Press [shift]+[s] to bring up the menu and move the 3D cursor (red-white circle) to the world origin.

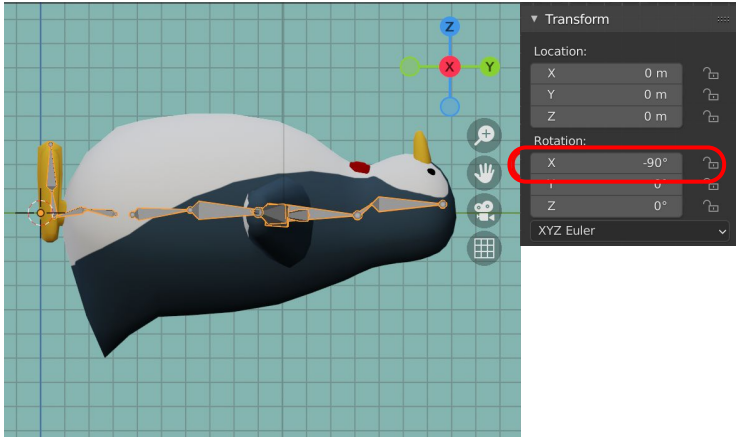


Move the origin of the bone (orange ball) to the 3D cursor

02

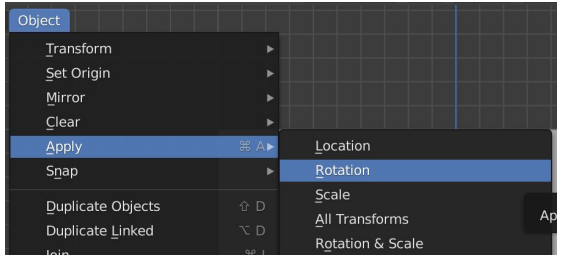
Press [3] on the keyboard to make the model appear in landscape view, rotate the bones by 90°, and set the transform rotation value to -90°.

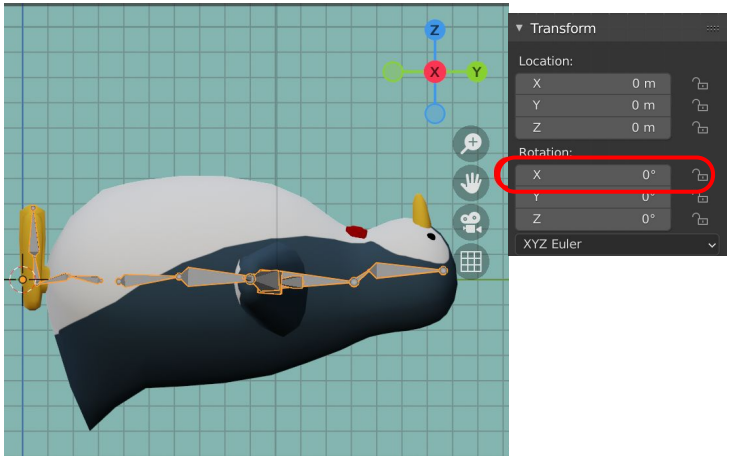




03

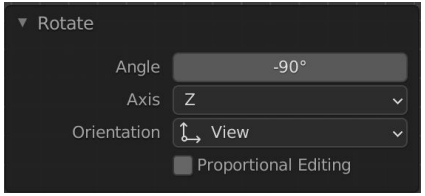
Then, with the bone selected, go to Object > Apply > Rotate to set the rotation value of the transform to 0°.

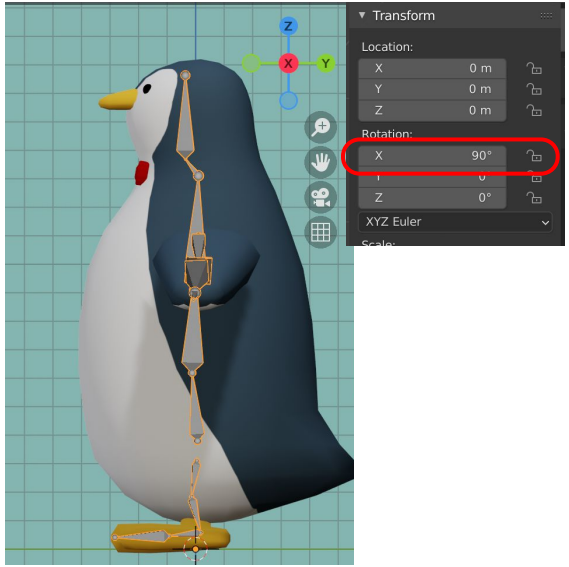




04

In this state, another -90° rotation is applied and the The value of the Transform's rotation will be 90°.

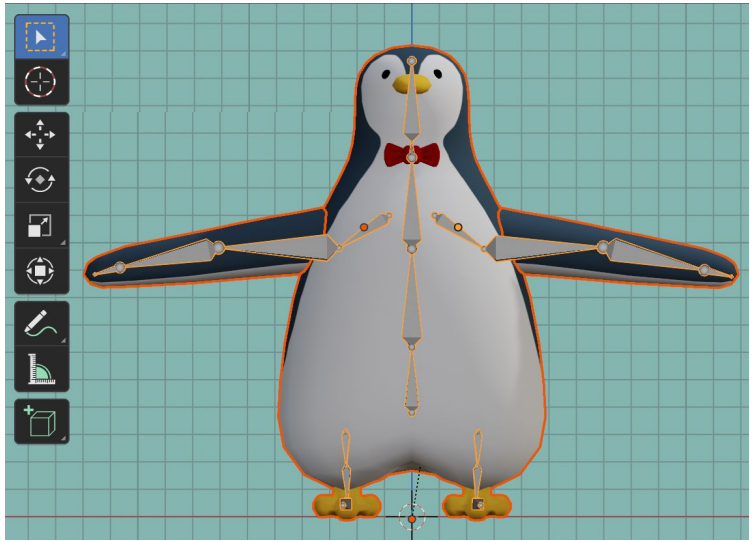




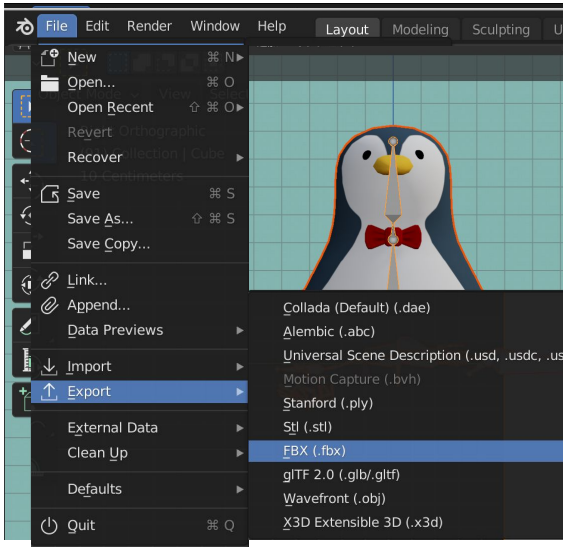
STEP 12

Export FBX

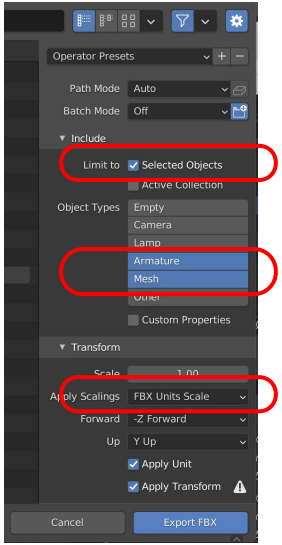
Select all objects and armatures and export FBX!



01 Select all objects by dragging in [Object Mode].



02 Select File => Export => FBX(.fbx)



03 Export with the above settings.

STEP 13

Add data to AVATAVI

There are three ways to enter a model into AVATAVI.

1.Save the model to the device containing the AVATAVI app and load the model in the app.

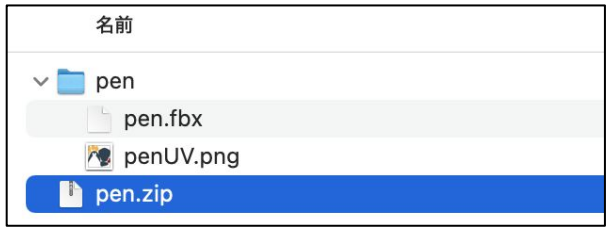
2.Save model data to *Google drive, Dropbox*(*1), etc. and load the *URL*(*2) in the app.

3.Save the model data to google drive, Dropbox, etc. and read the QR of the URL in the app.

*1 : A type of cloud service that stores files. Services that pass files to and from cannot be used.
*2 : You can also use URLs from avatar creation services that issue URLs, such as "Ready Player Me".

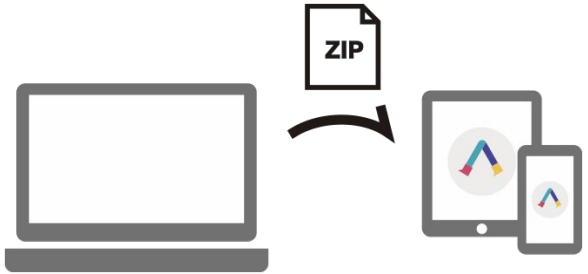
1. Save the model to the device containing the AVATAVI app and load the model in the app.

01



Combine the texture images and exported FBX into one folder and Zip compress them.

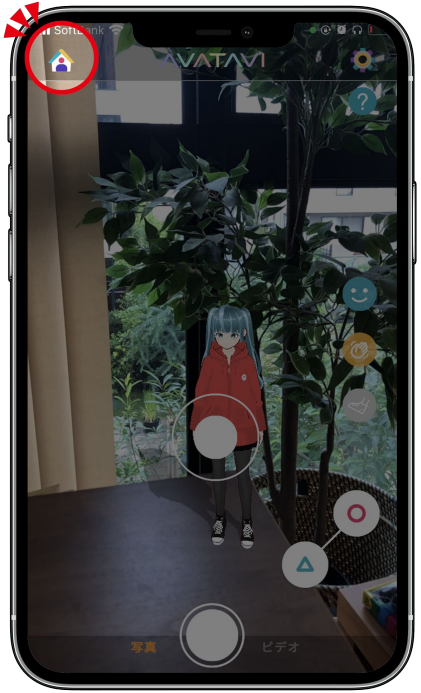
02



Save the Zip compressed data to the device on which the application is installed.

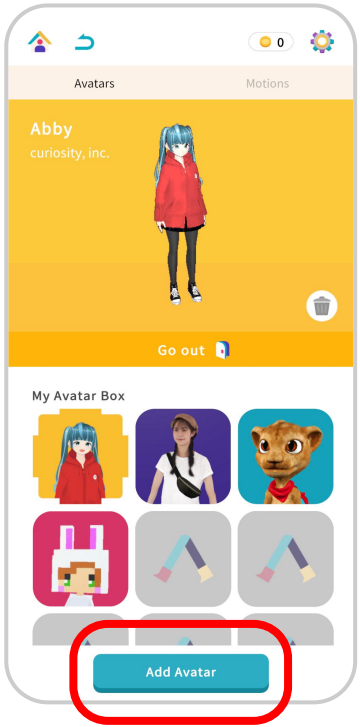
03

Tap the home button in the upper left corner.



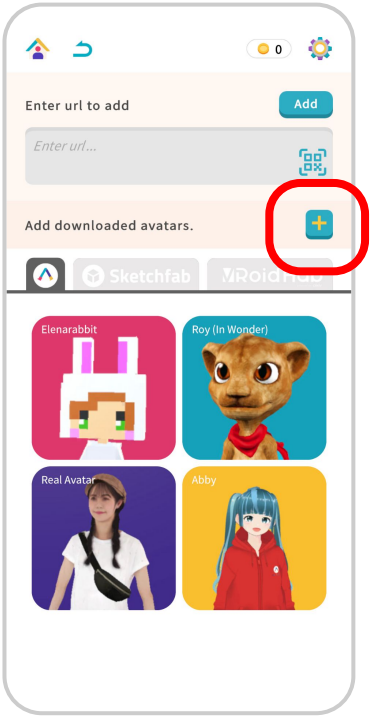
04

Tap the Add Avatar button below to open the Add Avatar window



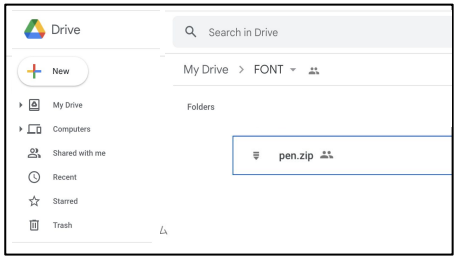
05

Tap the "+" button to the right of "Add a downloaded avatar" to add an avatar from your saved location.

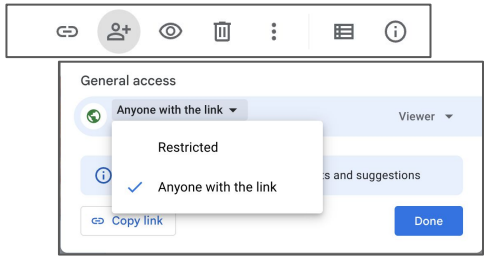


2.3. Add to AVATAVI app from QR

01 Upload your avatar data to the cloud service.



02 Set no restrictions on file sharing

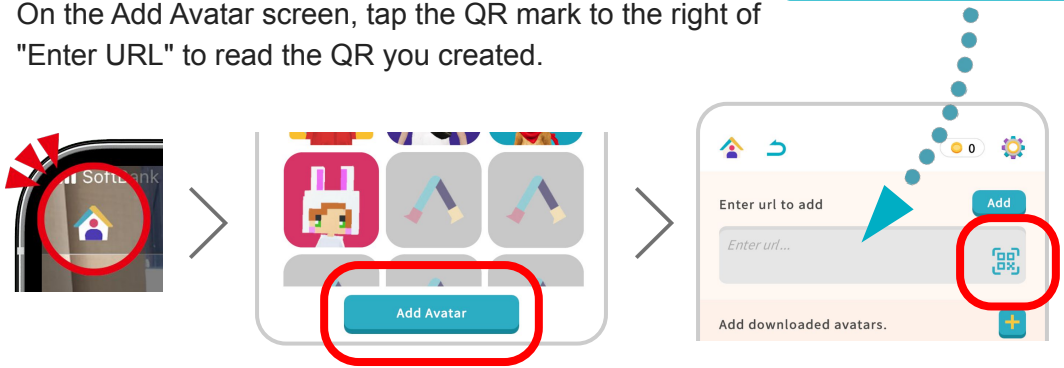


03 Click the link button on the right side of the screen to copy the URL.

04 Use a QR creation service to convert the retrieved URL into a QR.

05 On the Add Avatar screen, tap the QR mark to the right of "Enter URL" to read the QR you created.

You can even paste the URL directly!



Make lots of cute characters and play with AVATAVI!

Download on the App Store

GET IT ON Google Play