CrazyTalk Animator 3
G3 Character Creation
White Paper
Table of Contents

Chapter 1  Getting Started – Assets Introduction.................................................................3
Chapter 2  Options for Importing PSD Assets......................................................................5
Chapter 3  Creating Standard G3 Characters........................................................................8
  3.1  The Introduction of the Human Template ..................................................................9
  3.2  The Introduction of the Human Materials Template..................................................10
  3.3  Human Body Creation..............................................................................................11
  3.4  Aligning Bones.........................................................................................................14
  3.5  Layer Order Rearrangements.....................................................................................15
  3.6  Loading PSD Template to CrazyTalk Animator 3....................................................17
Chapter 4  Setting up Multi-pose Sprites for Body Parts......................................................19
  4.1  Creating Hand Poses...............................................................................................20
Chapter 5  Creating Talking Head – Assembling with Embedded Facial Feature Sprites........27
  5.1  Faces Puppeteer-able..............................................................................................28
  5.2  Applying Embedded Facial Features........................................................................30
Chapter 6  Creating Talking Head – Loading Facial Features from PSD Image Resource......36
  6.1  About the Facial Features........................................................................................37
  6.2  The Introduction of Template and Element Sourced PSD's.........................................38
  6.3  Setting Brows and Nose Sources............................................................................40
  6.4  The Basics of Eyes....................................................................................................41
  6.5  Setting and Creating Eyes........................................................................................42
  6.6  Setting Mouth............................................................................................................45
Chapter 7  Increasing the Resolution of Facial Features....................................................49
  7.1  The Structure of Talking Head PSD Template..........................................................50
  7.2  Using High-Resolution Pose Images.........................................................................51
Chapter 8  Creating Free Bone Character............................................................................54
  8.1  Creating PSD Structure............................................................................................55
  8.2  About the Bone Structure........................................................................................56
  8.3  About the Image Structure.......................................................................................58
  8.4  Creating Character Structures by Naming in PSD Editor........................................59
  8.5  Building Character Structures in CrazyTalk Animator 3.........................................64
Chapter 9  Illustrator Pipeline to CrazyTalk Animator 3......................................................72
  9.1  The Introduction of Illustrator Pipeline....................................................................73
  9.2  Differences between the Illustrator and Photoshop Pipelines....................................74
  9.3  Human Body Creation with Illustrator.....................................................................76
  9.4  Exporting and Loading PSD File to CrazyTalk Animator 3.......................................85
  9.5  Adding Additional Images to a Body Part................................................................89
In this whitepaper, you will learn how to generate **CrazyTalk Animator 3 G3 Characters** with your favorite **PSD** editor, including Standard, or Free Bone characters. With this approach, you can create unlimited G3 characters in a short time.

In addition to this whitepaper, you can view related tutorial videos by clicking [here](#).
Before you start reading this document, make sure that you have downloaded the resource pack, CTA_G3_Pipeline_PSD_Ai_Template_Sample_Project.zip, from the Official Reallusion Website. In this pack, you will find the contents you need to practice throughout this whitepaper.

The structure of the contents in the pack are shown below:

There will be seven main folders:

- **00_Calibration_Motion**: Contains one motion for testing the hand gestures of a custom G3 character.

- **01_PSD_Templates**: Contains different templates with formal structures for creating human, four-legged animals, spine, wings, and free bone characters. Use them to avoid building G3 character structures from scratch.

- **02_PSD_Image_Resources**: Contains source images for human body, head, and others in PSD format. You may use them to practice how to create a G3 character.

- **03_Sample_Projects**: Contains PSD files where all elements and poses are set. These files are ready to be loaded into CrazyTalk Animation 3.

- **04_Ai_Templates**: Contains different templates with formal structures for creating human, four-legged animals, spine, and wings. Use them to avoid building G3 character structures from scratch. Along with source images for human body, and others in Ai format. You may use them to practice how to create a G3 character with Illustrator.

- **05_Xara**: Contains special PSD templates for Xara users. There are different templates with formal structures for creating human, four-legged animals, spine, and wings. Along with a Readme file for instructions on building G3 character structures with Xara.

- **06_Tutorial**: Contains quick access to an online tutorial “Creating a G3 Character in Illustrator” and the link to the CrazyTalk Animation 3 Learning Center.
Each loaded character created with a PSD file can be used to create a G3 character. Once the character is created, you can adjust the parts in the PSD source file and then update the created character by using the Import PSD Assets feature in the Composer Mode of CrazyTalk Animator 3. You are allowed to update the entire character or specific parts of it with options.
To import the **PSD** file, you need to switch to **Composer Mode** and then click the Import **PSD** Assets button on the Toolbar.
After the button is clicked, you need to first pick and load a PSD file and then choose the importing method:

- **Full Actor:**
  This is chosen when you wish to create a new character or update a created character from a PSD file. You can determine whether to Maintain Current Actor Settings or not.

- **Partial Update:**
  It only updates or adds pose images in accordance with the image layers in the PSD file. You can pick one bone in order to update the images of this bone, or its sibling bones only. When you wish to create a custom talking head, then you choose this radio button.

- **Maintain Actor Settings:**
  - **Bone Settings:** Activate this box in order to maintain the bone's transformation when the character is being updated.
  - **Sprite Transformation:** Activate this box in order to keep the transformations for all sprites.
  - **Layer Order:** Activate this box to keep the layer order you have set to the current character.
  - **Subdivision:** Activate this box to keep the subdivision level for each body part.
Chapter 3  Creating Standard G3 Characters

This chapter describes the method to combine 6 simple and prepared body parts, with the Human Template replacements technique, to generate a CrazyTalk Animator 3 animate-able character. The context will focus on the Body Parts. For a talking head, please refer to Chapter 5 and 6.
3.1 The Introduction of the Human Template

File Utilized: 01_PSD_Templates / Human_Front_Full_Template.psd

When the human PSD template file, Human_Front_Full_Template.psd, is opened in your favorite PSD editor, you will see four groups:

- **RL_Bone_Lable:**
  The contents in this group are not to be imported into CrazyTalk Animator 3. They are used for placing the bones, the name of the bones, and other elements.

- **RL_Bone_Human:**
  This group is used for placing the Bone layers.

- **RL_TalkingHead:**
  This group is used for placing the data related to the head, such as the eyes, nose, mouth and any other facial features (described in Chapter 5 and 6).

- **RL_Image:**
  This group is used for placing the image data related to the body.
3.2 The Introduction of the Human Materials Template

In order to create a basic character with 10 parts, you need to first open the Elastic_Folks_Front_Simple.psd file, where the individual image groups and body part layers, for creating a default front facing character, are prepared.

The data related to the body include:

1 Heads (without facial features), 1 Face (painted with facial features), 1 body, 1 left and 1 right arms, left and right hands, left and right legs and left and right shoes.
3.3 Human Body Creation

| Files Utilized: | 01_PSD_Templates / Human_Front_Full_Template.psd | 02_PSD_Image_Resources / Elastic_Folks_Front_Simple.psd |

To create the body of a G3 character, you simply need to insert images into certain layers and slightly adjust these images.

1. Drag and drop the 10 body part layers from the Elastic_Folks_Front_Simple.PSD document into the RL_Image group of the Human_Front_Full_Template.psd document.

2. Transform these layers together to fit to the approximate proportion of the dummy. Please note that it is highly suggested that the Hip of the imported image layers is aligned to the Hip of the dummy.

3. Move the body part images to specific bones by dragging them to corresponding folders.
For example:

- **Hip** image layer to the **Hip** group.
- **LArm** image layer to the **LArm** group.
- **RArm** image layer to the **RArm** group.
- **00_Relaxed** left hand image layer to the **Lhand** group.
- **00_Relaxed** right hand image layer to the **RHand** group.
4. Temporarily move the **Face** and **Head** image layers into the **Head** group under the **RL_Image** group folder.

5. When the steps are finished. The white dummy image layer can be removed (deleted).
3.4 Aligning Bones

The bones are the rotating center of the body parts in CrazyTalk Animator 3. Therefore, it is crucial to align the bones in the PSD template to their adequate positions. Once the individual body image layers are correctly moved to the corresponding folders, then the bones can be used as references when being moving the layered parts to their appropriate positions.

Take the example after the final step in the previous section, follow the steps below:

1. Turn on the Auto-select feature if your PSD editor (in this case, Photoshop) provides one.

2. In accordance to the name next to the bones, drag and move these bones to their appropriate body positions in the working area.
3.5 Layer Order Rearrangements

If you encounter any layer order issue, then adjust the order in the PSD template document before it is loaded into CrazyTalk Animator 3. CrazyTalk Animator 3 will list the body parts in accordance with the order specified in the PSD file.

Take the example after the final step in the previous section, follow the steps below:

1. Drag and move the LHand group layer above the LArm group layer.

2. Repeat the same steps to the RLHand, Lfoot and Rfoot group layers.
3. Save the document (in **PSD** format) after the adjustments are finished.
3.6 Loading PSD Template to CrazyTalk Animator 3

After a PSD file with a custom character is prepared, you are able to load it into CrazyTalk Animator 3 to form a new G3 character.

1. Launch CrazyTalk Animator 3.

2. Click the Create G3 Free Bone Actor button on the Functional Toolbar (or alternatively drag and drop the PSD file into the working area).
3. When the loading is done, the character will appear in the **Composer Mode**.

4. Click the **Back Stage** button to bring the character to the stage for applying motions.
Chapter 4  Setting up Multi-pose Sprites for Body Parts

In this chapter, the hands will be taken as an example to describe how to set multiple element poses for sprites inside the PSD template file.
4.1 Creating Hand Poses

The hand of the character created in the previous chapter only contains one pose, 00_Relaxed, as the default pose.

Therefore, when the character's hand sprite is opened by the Sprite Editor, there is only one element pose. In the following steps, the rest of the 29 hand poses will be shown.
1. Open the **Hand_Gesture.psd** file with the PSD editor. You will see 30 hand poses in the **RL_Image > L.Hand** group folder.

* Please note that the sequence for each layer is unique in order for it to be identified by CrazyTalk Animator 3. Therefore, you should NOT change the order sequence.
2. Select all pose layers of the left hand; drag and drop them into the \textbf{LHand} group folder of the character PSD template document.
3. Transform each layer image to their appropriate position.

4. Repeat the same steps to the other hand and save the PSD template document.

5. In CrazyTalk Animator 3, select the character created in the end of the previous chapter and switch to the Composer mode.
6. Click the **Import PSD Assets** button to open the **PSD Loading Options** panel.

7. Choose the **Full Actor** button and load the **PSD** template file created in Step 4.
8. Select one of the hands and open the Sprite Editor. The 30 blank poses are now filled up with the corresponding images from the **PSD** file.
9. If you apply hand-gesture-changing motions to the character, then you will see different hand pose performances.
In this chapter, you will learn how to compose a perform-able talking head with existing facial feature contents. These facial features can be individually saved as re-usable templates for any other characters.
5.1 Faces Puppeteer-able

The character created in the previous chapter can not perform any facial expressions or rotate its head when puppeteered with the **Face Puppet** panel. It is because the character head is simply an image in the **Head** body part (as shown in the illustration below), but not in the **Head** sprite of the facial features animate-able by the **Face Puppet** panel. All pose slots for every facial feature sprite (take the eye sprite as an example) are empty:
The facial feature sprites of a head that are animate-able by the **Puppet Panel** should be layered; all pose slots of every facial feature sprite (take the eye sprite as an example) should be filled up as shown below:
5.2 Applying Embedded Facial Features

File Utilized: Completed character PSD from Chapter 4

In this section, the G3 character PSD template will be used and modified so that the face sprite is the only facial feature being loaded into CrazyTalk Animator 3. The rest of the facial features will be composed by the embedded templates from the Content Manager.

1. Open the RL.Image > Head folder. There are Face image layers painted with facial features, and a Head layer containing just the face.

2. Delete the Face layer because although it has facial features, they cannot be puppeteered.
3. Drag and move the Head layer into the RL_TalkingHead > HeadImage > Face folder.

4. Save the PSD template document.
5. Go back to **CrazyTalk Animator 3**, select the character being created in the previous chapter and switch to the **Composer Mode**.

6. Click the **Import PSD Assets** button and load the PSD template file adjusted after Step 4. You will be asked the importing method.

![PSD Loading Options](image)

7. Choose the **Partial Actor** button but do not check the boxes because you only need to update the head and keep the settings for the other body parts. Click the **Next** button.

8. You will be asked to choose a bone for updating the sprites, and the sprites of the sibling bones. Select the **TalkingHead** from the list. Click the **OK** button.
9. The character's face will be updated into an empty one without any facial features.

10. In the Content Manager, find the Head > Head Template folder and apply the G2+ facial features.
11. Transform the facial features if necessary.

12. Return to the **Stage** mode. The facial features are now in different layers with depths. And the poses of each facial feature sprite (take the eye as an example) are completely filled.
13. You can then use the **Face Puppet** panel to animate the face for creating facial expressions.
Chapter 6  Creating Talking Head – Loading Facial Features from PSD Image Resource

In this chapter, you will learn how to create a perform-able talking head by loading facial features from the PSD image resource file. Thus you can create unlimited custom facial features instead of using the templates from the Content Manager in CrazyTalk Animator 3.
6.1 About the Facial Features

- **“Normal” pose in a sprite:**
  - The first pose found in *brows, eyes, nose,* and *mouth,* is named **01_Normal.** And the **01_Normal** pose is the initial pose for the sprite.
  - The **Smooth Facial** technique in **CrazyTalk Animator 3** generates expressions for facial features by deforming the **01_Normal** pose.
  - The template files include the **Template_Human_Front.psd** and **Template_TalkingHead.psd,** and they must be under the **Normal** folders for brows, eyes, nose and mouth groups.

- **More required poses for a sprite:**
  - When the expressions cannot be done by deforming the “**Normal**” pose, more pose images are required. You are allowed to add more element poses to the **Eyes** and **Mouth** sprites.
6.2 The Introduction of Template and Element Sourced PSD’s

Files Utilized:

| 01_PSD_Templates / Human_Front_Full_Template.psd |
| 02_PSD_Image_Resources / 01_Human / Low-res_Talking_Head.psd |

In the **RL_TalkingHead** group folder of the **Human_Front_Full_Template.psd**, there are three sub-group folders:

- **HeadBone_Label**: The labels of names for each bone are stored in this group folder.
- **HeadBone**: The bones themselves are stored in this group folder.
- **HeadImage**: The facial feature images are stored in this group folder.
As for the **Low-res_Talking_Head.psd**, you can see all the necessary source images for forming the facial features and expressions. In this chapter, you will learn how to move the source elements into the correct folder in the character **PSD** template file. The first facial feature to be taken as an example is the brow.
6.3 Setting Brows and Nose Sources

1. Drag and drop the left and right brows from the HighResolutionHeadElement.psd into the corresponding folder, HeadImage > LeftBrow > Normal and HeadImage > RightBrow > Normal group folders in the human PSD template document.

2. Drag and drop the nose element to the HeadImage > Nose > Normal folder.
6.4 The Basics of Eyes

The procedure for creating an eye element is somewhat different from the other facial features; you need to follow a specific workflow to generate one eye that is able to roll the eyeball in CrazyTalk Animator 3.

- An eye basically consists of three parts: The **white**, the **iris**, and the **mask**. Therefore, you will see three sub-folders in a pose group folder.
  - **Mask**: It is used to determine the range for displaying the iris when the iris is rolling.
  - **EyeWhite**: This folder stores the image layer of the eye white.
  - **Iris**: The Iris folder stores the iris image layer.
- The **Mask** and **EyeWhite** folders can be empty.
- If only the **Iris** and the **Eyewhite** are filled with an image, then the one in the **EyeWhite** will automatically be taken as the mask.
- To fill up the three groups is the standard, and the best policy.
6.5 Setting and Creating Eyes

| File Used: | 02_PSD_Image_Resources / 01_Human / Low-res_Talking_Head.psd |

Taking the **Low-res_Talking_Head.psd** as an example, there is only iris for the character's eyes. Therefore, the creation is as shown in the steps below:

1. Select all these iris pose layers.

2. Horizontally align them to the center by using the feature provided in the image editor.

3. These layers will look as the illustration below.
4. Drag and drop these layers individually, to their corresponding folders under the eye group folder.
In this case, the right eye and the left eye all look the same, so the right eye data can be duplicated from the left eye.

5. Delete the RightEye folder.

6. Duplicate the LeftEye group folder and rename it to RightEye.

7. Rename the newly generated folder into RightEye.

8. Transform the left and right eyes appropriately in accordance with the position of the eye bones.
6.6 Setting Mouth

The mouth-creating procedure is almost the same as the eye-creating one, all you need to do is to align the source pose images and then put them into the adequate folders in the human **PSD** template document.

1. Select all mouth pose layers in the **Template_Human_Front.psd**.

2. Horizontally and vertically align them to the center by using the feature provided in the image editor.

3. The layers of the image will look as shown below:
4. Drag and drop these layers into the Template_Human_Front.psd document. Make sure that they are individually moved into the corresponding folders.

5. Go back to CrazyTalk Animator 3, select the character created in Chapter 3 and then switch to the Composer Mode.

6. Click the Import PSD Assets button and choose the Full Actor radio button to reload the PSD template.
7. The character will instantly be updated.
8. Open the **Sprite Editor** and check the poses for each facial feature (in this case, the mouth).
In the previous chapter, the source images in the *Low-res_Talking_Head.psd* are bitmap-based. However, if you resize the image elements, there is a great chance for quality lose as shown in the illustration below; in order to ensure visual quality for each element, you need to take the *High-res_Talking_Head.psd* file as the element sources because these element images are of high resolutions, their visual quality will not be degraded when they are resized.
7.1 The Structure of Talking Head PSD Template

File Utilized: 01_PSD_Templates / Human_Talking_Head_Template.psd

Before increasing the resolution of the pose images, you need to understand the structure of the head template. In the file, the main group folder is **RL_TalkingHead**, and it cannot be renamed or deleted because **CrazyTalk Animator 3** uses it to identify the existence of the talking head. There are three main sub-group folders in it:

- **HeadBone_Label**: The name labels of each bone are stored in this folder. Basically, you do not need to touch them. CrazyTalk Animator 3 ignores them when loading this template.

- **HeadBone**: This folder stores all bones of the facial features. You are allowed to move them to an ideal position, but do not remove, resize, or rotate them.

- **HeadImage**: This folder stores all the facial pose images; you can move your custom images into the corresponding folders in this group when generating custom facial sprites.

The settings of the facial pose images are identical to the steps described in the previous chapters. After the settings are done, use the **Import PSD Assets** feature provided by **CrazyTalk Animator 3** to update the head of the character.
7.2 Using High-Resolution Pose Images

Files Utilized
01_PSD_Templates / Human_Talking_Head_Template.psd
02_PSD_Image_Resources / 01_Human / High-res_Talking_Head.psd

1. Open the Human_Talking_Head_Template.psd and the High-res_Talking_Head.psd.

* If you want to use custom facial features, please make sure their original sizes are no less than 100 pixels x 100 pixels.

2. Drag and drop the element images from the High-res_Talking_Head.psd document to the other one (Please refer to the previous chapter for the work flow).
3. If the sizes of the elements are not ideal, then you can transform them (these elements are made by Path, therefore they do not have the quality loss issue when being resized).

4. Make sure that the bones are correctly placed with the pose images, especially the Face bone because it will be the connecting joint for the top of the neck in CrazyTalk Animator 3.
5. In CrazyTalk Animator 3, select the character created in the previous chapter and switch to the Composer Mode.

6. Click the Import PSD Assets button and load the PSD file into CrazyTalk Animator 3.

7. Choose the Partial Update radio button and load the PSD template file to update the head of the character.

8. Resize the head of the character and the quality loss issue is resolved.
Chapter 8  Creating Free Bone Character

By using the **PSD** template file, you can easily create custom characters as described in the previous chapters. However, if you wish to create a custom character, including the bone joints and the images from scratch, then you can follow the steps in this chapter.
8.1 Creating PSD Structure

A standard structure for a character in a PSD file is composed of two main groups, Bone and Image. In this section, you can create your custom PSD structure for the character in order to have certain groups when inserting element images.

The two main groups and their names are as shown below (please remember that the names must follow the convention in this illustration):

The RL_Bone is for storing bone layers, while the RL_Image stores the images you want to use for the custom character.
### 8.2 About the Bone Structure

For a PSD editor, such as Photoshop, the image layers do not have the ability to form tree structures. Therefore, you need to rename the layers in certain formations to create a bone structure (or you can form the bone structure later on in **CrazyTalk Animator 3** – section 8.5).

- The name of the bone root must be “**Root>Bone1_1**”.

- The naming convention for the other bones must be the parent bone name followed with a “**>**” sign, and then the child bone name. In this case, “**Bone_1>Bone_2**”.

![Bone Structure Diagram](image-url)
- The name of the final bone must be **Parent Name>Parent Name_Nub**.
8.3 About the Image Structure

After the bone structure is set up, you can add the image into the **RL_Image** folder.

- The name of the image layer must have an identical name as the bone to which it is attached.

- If you intend to attach a sprite with multiple pose images to a certain bone, then you can create a folder under the **RL_Image** first, rename it to the name of the bone to which the sprite is attached, and then store all pose images that you want to add in the sprite.
8.4 Creating Character Structures by Naming in PSD Editor

File Utilized: 02_PSD_Image_Resources / 05_Free_Bone / Scarecrow.png

In this section, the character's bone structure and images are created in the PSD editor (in this case, Photoshop). The structure relationships of the bone and the image are designated by certain naming rules. Once the editing is done, all you need to do is import the PSD file into CrazyTalk Animator 3 and the character will ready to be animated.

1. Start a new file in your favorite PSD file editor.
2. Create two group folders named RL_Bone and RL_Image.
3. Insert the character image into the RL_Image folder.
4. Create several simple path-shape layers in the **RL_Bone** group folder. These shapes are taken as the marks of the joints for the character when it is loaded into *CrazyTalk Animator 3*.

5. Place the path layers in the desired positions if necessary. They will be the bone joints in *CrazyTalk Animator 3*. 
6. Rename the path layers as shown below:

- The root bone should be named **Root>Bone_1**.
- The other sibling bones should be named in the form that the parent bone name follows with a “>” sign and then the child bone name. For example, **Bone_1>Bone_2**.
- The name of the final bone must be **Parent Name>Parent Name_Nub**.
- Assign the character image to the bone to which it is about to be attached by renaming the image to the name of the bone.

7. Save the document as a file in **PSD** format.
8. Load the PSD file to form a new character in CrazyTalk Animator 3 by drag and dropping the PSD file onto the working area in CrazyTalk Animator; or switch CrazyTalk Animator to Composer Mode, and click the Import G3 Free Bone Actor button to load the PSD file.

9. You will then see the new character with a bone structure.
10. Because the bone structure follows the naming rule for the **G3 Spine** character, the motion templates for the character can be applied to this new character as well.
8.5 Building Character Structures in CrazyTalk Animator 3

File Utilized: 02_PSD_Image_Resources / 05_Free_Bone / Scarecrow.png

In the previous section, the structures for the bones and images of the character are created in the PSD editor. However, if you do not want to remember the naming rules, then you can simply create certain layers in a PSD document and then build up the specific structure set in CrazyTalk Animator 3.

1. Start a new file in your favorite PSD file editor.
2. Create two group folders named **RL_Bone** and **RL_Image**.
3. Insert the character image into the **RL_Image** folder.
4. Create several simple path-shape layers in the **RL_Bone** group folder. These shapes are taken as the marks of the joints for the character when it is loaded into **CrazyTalk Animator 3**.

5. Place the path layers into desired positions if necessary. They will be the bone joints in **CrazyTalk Animator 3**.
6. Rename the path and image layers as shown below:

7. Save the document as a file in PSD format.

8. Load the PSD file to form a new character in CrazyTalk Animator 3 by drag and dropping the PSD file onto the working area in CrazyTalk Animator; or switch CrazyTalk Animator to Composer Mode, and click the Import G3 Free Bone Actor button to load the PSD file.
9. You will then see the new character with a bone structure, and that each bone is in the same level of the tree view.

- The entire image is now controlled by **Bone_1**; therefore, only **Bone_1** is in yellow.
- The image is attached to the **Bone_1**, which causes a red spot shown in the yellow bone.
- The other bones are not attached nor do they control any image, so they are all grayed out.
10. In the Composer Mode, open the **Bone Editor**. Press the **Connect** button in order to connect these bones into a bone structure.
11. Click on the **Bone_1** first, and then **Bone_2** to connect them (always click the bone you want to specify as a parent first, and then the child bone).
12. Repeat the same steps to connect all bones.
13. Because the bone structure follows the naming rule for the **G3 Spine** character, the motion templates for the character can be applied to this new character as well.
In CrazyTalk Animator 3, not only can you create G3 Characters with a PSD editor, but you can also prepare ones with Illustrator. This chapter describes the differences between the PSD and Ai template structures, and the methods to quickly generate an animate-able character by replacing the body parts with the Ai template. Besides, you will also learn how to add additional images onto a character's body parts.
9.1 The Introduction of Illustrator Pipeline

In the character pipeline with a PSD editor (in this case, Photoshop), you can create a G3 character by inserting images into specific layers, aligning bones, exporting PSD file, and finally load it into CrazyTalk Animator 3.

The character pipeline for Illustrator is almost the same. Inserting images to specific layers, aligning bones, exporting PSD file, and then loading it into CrazyTalk Animator 3.
9.2 Differences between the Illustrator and Photoshop Pipelines

There are few differences between the Illustrator and Photoshop pipelines.

First, all image layers in Illustrator must be shown before exporting the PSD file; while it is not necessary to show the layers in the Photoshop pipeline.

Second, check out the Spine template in Illustrator and Photoshop with the side by side comparison. Although the two images look alike, the image in Illustrator (as shown on the left below) is vector-based, composed of different color shapes under a group folder; the image in Photoshop (as shown on the right below) is raster-based in a single piece of an image layer.
In the **Illustrator** pipeline, in order for the PSD format to be identified by **CrazyTalk Animator 3**, the vector-based color shapes must be grouped into a group folder ("Spine" in this case, as shown on the left below).

Thus, after exporting the PSD file, these vector-based color shapes can be flattened into a single raster-based image layer with that group folder named “Spine” like one in **Photoshop** (as shown on the right below).

* Please note that the folder name in the template can NOT be changed, otherwise the program will be unable to identify the image after you load the file into CrazyTalk Animator 3.
9.3 Human Body Creation with Illustrator

Files Utilized: 04_Ai_Template / Human_Front_Template.ai

The Introduction of the Human Template

When the human Ai template file, Human_Front_Template.ai, is opened in Illustrator, you will see four groups:

**RL_Bone_Label:**
The contents in this group are not to be imported into CrazyTalk Animator 3. They are used for placing the bones, the name of the bones, and other elements.

**RL_Bone_Human:**
This group is used for placing the Bone layers.

**RL_TalkingHead:**
This group is used for placing the data related to the head, such as the eyes, nose, mouth and any other facial features (described in Chapter 5).

**RL_Image:**
This group is used for placing the image data related to the body.
The Introduction of the Human Materials Template

In order to create a basic character with 10 parts, you need to first open the Elastic_Folks_Front_Resources.ai file, where the individual image groups and body part layers, for creating a default front facing character, are prepared.

The data related to the body include:

1 Heads (without facial features), 1 Face (painted with facial features), 1 body, 1 left and 1 right arms, left and right hands, left and right legs and left and right shoes.
Human Body Creation

To create the body of a G3 character, you simply need to insert images into certain layers and slightly adjust these images.

1. Drag and drop the 10 body part layers from the Elastic_Folks_Front_Resources.ai document into the RL_Image group of the Human_Front_Template.ai document.
2. Transform these layers together to fit to the approximate proportion of the dummy. Please note that it is highly suggested that the Hip of the imported image layers is aligned to the Hip of the dummy.
3. Move the body part images to specific bones by dragging them to corresponding folders.

* Please note that there are two different types of body parts, and therefore their placing destination is NOT the same (as described below).

- If a body part is composed of multiple color shapes under a group folder (RFoot in this case), drag the RFoot image group to the first layer of the RFoot group folder.
- If a body part is composed of a single color shape without a group folder (in this case, RThigh), drag the RThigh image layer to the second layer of the RThigh group folder, so that the RThigh image layer can inherit the group folder of the template. (Please refer to the previous section)
Follow the rules described above, place all of the 10 body parts to the correct folders:

- **Head** image group to the **Head** group.
- **LArm** image group to the **LArm** group.
- **RArm** image group to the **RArm** group.
- **00_Relaxed** left hand image group to the **LHand** group.
- **00_Relaxed** right hand image group to the **RHand** group.
- **LThigh** image layer to the **LThigh** group.
- **RThigh** image layer to the **RThigh** group.
- **LFoot** image group to the **LFoot** group.
- **RFoot** image group to the **RFoot** group.
- **Hip** image group to the **Hip** group.
4. When the steps are finished. The white dummy image group or image layer can be removed (deleted).
5. Copy the `Head` image layer and paste it to the `RL_TalkingHead > HeadImage > Face` group folder.

* For creating a talking head, please refer to Chapter 5 and 6.
Aligning Bones

The bones are the rotating center of the body parts in CrazyTalk Animator 3. Therefore, it is crucial to align the bones in the Ai template to their adequate positions. Once the individual body image layers are correctly moved to the corresponding folders, then the bones can be used as references when moving the layered parts to their appropriate positions.

Take the example after the final step in the previous section, in accordance to the name next to the bones, drag and move these bones to their appropriate body positions in the working area.
9.4 Exporting and Loading PSD File to CrazyTalk Animator 3

After a custom character is prepared in *Illustrator*, you are able to export the PSD file and load it into *CrazyTalk Animator 3* to form a new *G3* character.

1. Display all the image layers you need before exporting. You can quickly show all image layers at one time by clicking the *Object >> Show All* command on the Menu Bar.
2. Click **File >> Export >> Export As...** and choose to export in PSD format. Please make sure that the **Write Layers** option is chosen in the following dialog.
3. Launch **CrazyTalk Animator 3**.

4. Click the **Create G3 Free Bone Actor** button on the **Functional Toolbar**.

Alternatively drag and drop the exported PSD file into the working area.
5. When the loading is done, the character will appear in the **Composer Mode**.

6. Click the **Back Stage** button to bring the character to the stage for applying motions.
9.5 Adding Additional Images to a Body Part

In this section, the completed G3 character Ai template will be used and modified so that the additional image group (in this case, Flower) can be combined into a body image layer (Hip in this case) being loaded into CrazyTalk Animator 3.

Open the Elastic_Folks_Front.ai and Flower_Resources.ai.
There are two methods to add the flower image to the character’s Hip image layer.

A. Copy all of the vector-based color shapes of the flower, and paste them to the Hip group folder (together with the color shapes of Hip).

With this method, after exporting the PSD file, the color shapes of Flower and Hip will be combined into a single Hip image layer under the Hip group folder, as can be seen in Photoshop.
B. Copy the Flower image group, and paste it to the **Hip** group folder. Then, the **Hip** group folder will be composed of two group layers - Flower and Hip.
Rename the **Hip** group folder (the first layer). Add the symbol “+” before the name of the folder so that **CrazyTalk Animator 3** is able to identify and automatically combine the image layers under the group folders which start with the “+” prefix.

With this method, after exporting the PSD file, the color shapes of Flower and Hip will be separately combined into their own image layer under the +Hip group folder, as can be observed in **Photoshop**.
Once adding the flower image to the character's body part (Hip) with the method A or B described above, you can export the PSD file and load it to CrazyTalk Animator 3. (Please refer to the previous section)

In the Composer Mode, select the character's Hip sprite and then open the Sprite Editor. You will see the Hip thumbnail comes with the additional flower image on it.

* Similarly, in the Photoshop pipeline, you can add any additional image layers under a body part's group folder, then follow the naming convention to prefix the group folder with a “+” symbol for CrazyTalk Animator 3 to combine image layers under this body part.