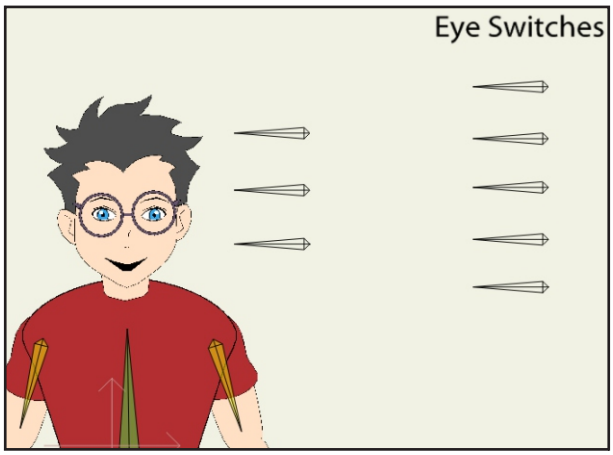
Working with Smart Bone Dials

Lesson 7

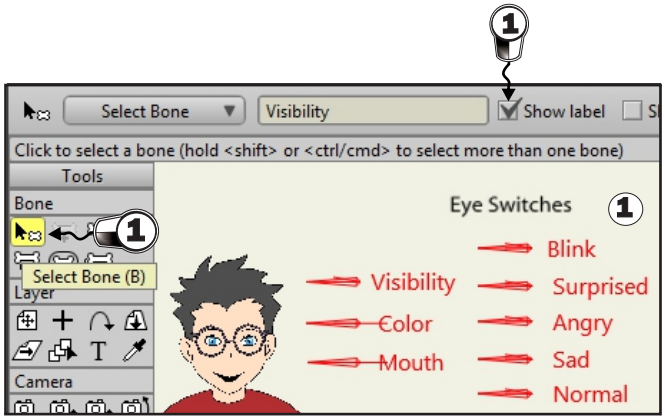
Not only can Smart Bones be used to correct actions, they can also be programmed to act as dials for all sorts of different events. You can control switch layers, point animation, gradients, and more with a simple set up of bones and objects. For more advanced dials, you may need to check on **Allow nested layer control**, which is located in the main bone's **Layer Settings**. However, you more than likely will not have to bother with this as it is checked on by default.

To get an idea of how these complex actions work, open up the work file **`SmartBoneDials.anime.`** Here you will see our familiar friend Mr. Flex. He's rigged up and ready for animation. You will notice that there are additional bones sitting on the outside of the character, as shown in the picture(right). These have been made up ahead of time for you to play around with. They will act as dials that will set off different actions.



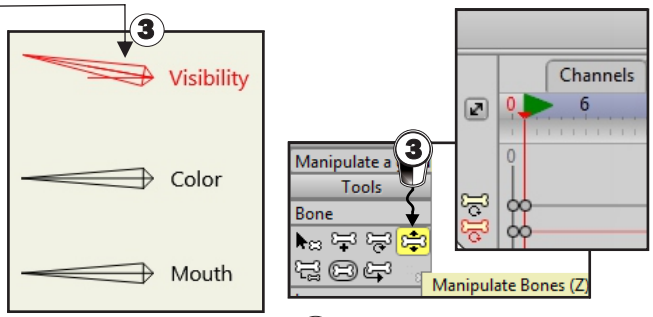
Next, perform the following steps:

1. First, click the **Select Bone** tool then highlight all the bones outside the character and check on the **Show Labels** box on the top bar. That way we can see the labels of each dial, as shown in the following screenshot(right).

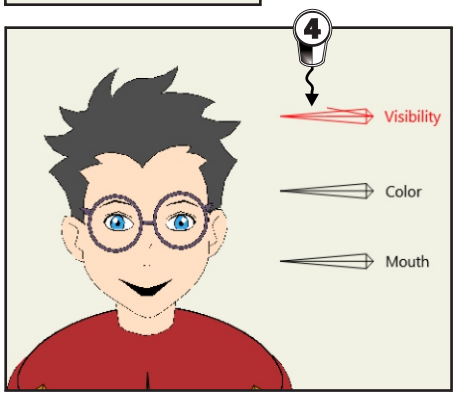


2. With the first bone dial(labeled **Visibility**) selected, we can turn the layer on or off. You will need to move forward to **frame 1** first to see this occur.

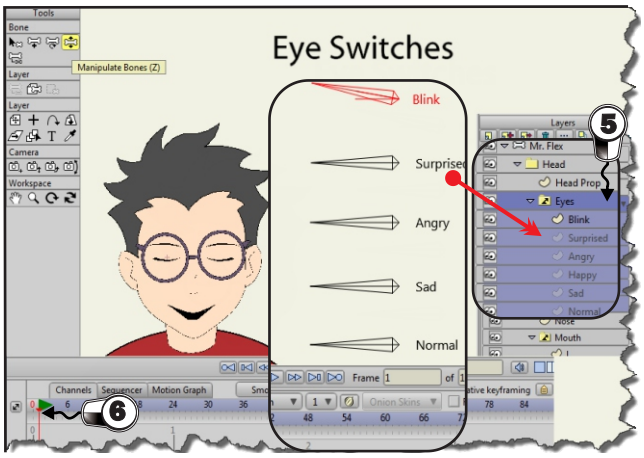
3. Once on frame 1, use the **Manipulate bone** tool to move/switch the **Visibility** dials. The dial's movement has been restricted greatly, but the slight adjustment will cause your layer to disappear/appear.



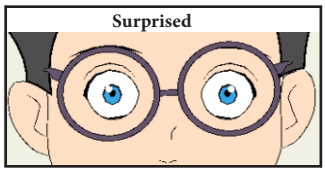
4. Bring the **Visibility** dial back to the starting position to get the Mr. Flex's layer back into view.

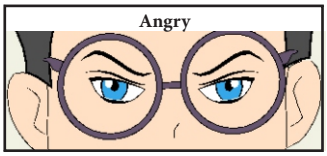


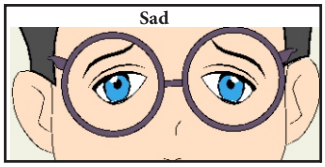
5. The second group of dials or switches, labeled **Eye Switches**, controls the eyes that are currently housed in a Switch layer. The Switch layer contains more sublayers: Blink, Surprised, Angry, Sad, and Normal, this is how Mr. Flex move his eyes. You can map out numerous switches and switch them for different positions. See this on the Layers panel.

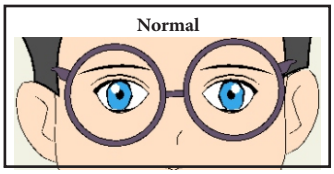


6. Make sure you're on frame 1 again as this action can only be viewed outside of frame 0. Using the **Manipulate Bone** tool again, flicking the dial up, according to its label will activate his expression of the eyes. Flicking it back down will trigger Mr. Flex to be happy eyes back up again. Below are the expressions when manipulating the different dials or switches.



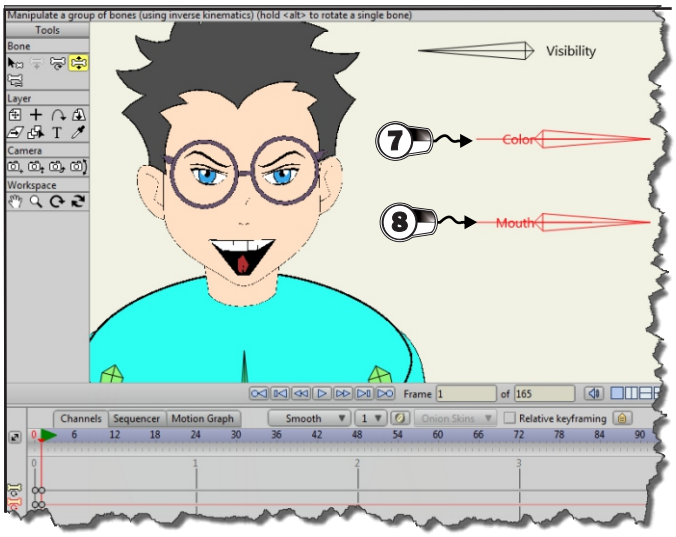






7. Now let's try moving the **Color dial** all the way to the right. You will notice that this will gradually change the character's color from green to red. This can, of course, be used to create transitional effects for colors, even gradients. While you can do this with traditional key-frames, the dial arguably gives the user more control.

8. Moving/switching the **Mouth dial** will result in the movement of the points that make up the mouth, as shown in the following screenshot(right). This can be useful for advanced lip-syncing or other animations that require precise point movements. This is similar to when we fixed the arm bend in the previous exercise.



It can take some time to get used to working with Smart Bones. As we start drawing and rigging our character, the process should become easier to understand. The great thing about creating dials is that you can custom fit them to any job you are working on.

NOTE...
Remember, any of these effects can be animated out. All you have to do is move forward on your **Channels** timeline and adjust the dials to place keyframes down. Using Smart Bones is all about streamlining the animation process.

6 Bringing a Cartoon Character to Life

Laboratory Activities

Animating the Human Skeleton

Lab Exercise 6.7

Task: Animate the Human Skeleton Body

Expected Output File: Half Skeletal human walking.mp4

Work File: walk cycle 3-4 front.jpg

1. View the expected output file indicated above.
2. Launch the Anime Studio from your desktop.
3. Open your previous finished project Lab 6.6 Restricting Body Movements.

   After rigging-adding, binding and angle bones constraints configuration, your character should be ready for animation. This project will animate our rigged Skeletal Human character.

4. To easily make a character walk, it is essential to have a walk cycle pattern. This project provided a work file for your reference. Open the file **Walk cycle 3-4.jpg** located in Chapter 6 folder, this will be your guide and pattern when doing the walk cycle animation.

5. In the Timeline Channels tab, move to Frame 1, use the tools below to follow the position of the first pattern. Just click on the bones of the Human Skeleton and reposition the different parts.

6. Select then the Walk **cycle.jpg** image on Layers Panel then use this tool below and drag the pattern to the left of the window for the next pattern, don't forget to hold down the SHIFT to restrain the image from movements, see picture right:

7. Now on Frame 12, drag the Skeleton a little further then select on character bone layer. Use the Manipulate Bone tool to move the bones according to second pattern, see picture right.

   Increment the Frame number by 12 in each pattern, meaning in the third pattern move to Frame 24 then using the Manipulate Bone tool follow the 3rd patter. Do the same on the succeeding patterns. Play the animation to test.

8. Save this project file to your folder.