2. Build an Animated Multistate Usercontrol

Open the vector graphic in Expression Design – ***Eyeball.design***

Copy and paste the XAML into a new Silverlight project in Expression Blend – ***Ctrl + Shift + C*** or ***Edit → Copy XAML***

With everything still selected press ***Ctrl + G*** to group the eyeball into a grid.

Right click on the grid and select ***Make Into UserControl...***

Name it ***BtnEyeball*** and leave the check box unchecked.

On the ***States*** tab (top right) create a new States Group and call it ***Direction***.

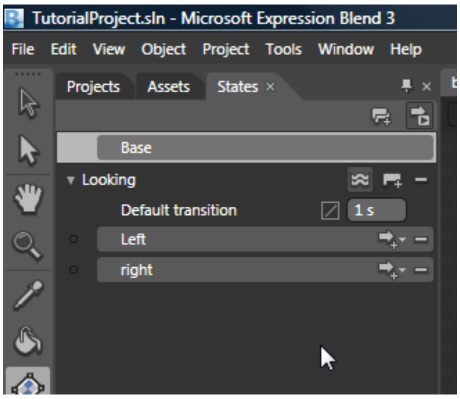
New State Group Button

> A State Group contains states/animations that will not be triggered at the same time. In this case we are going to put looking left and right into the Direction group. You will never want the eye to look left and right at the same time but you might want it to look left and blink.

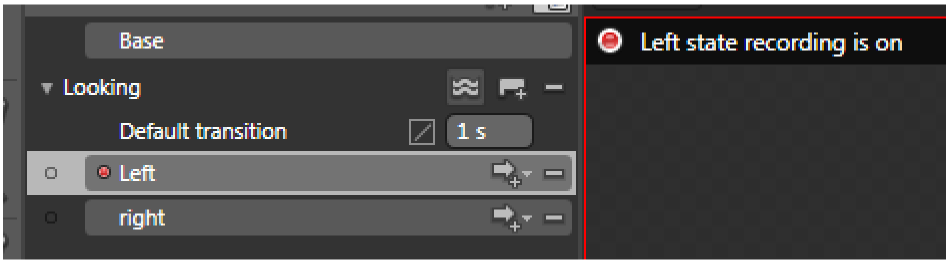
Add a new State and call it ***Left***. New State button

Add a new State and call it ***Right***.

You should now have something similar to this:


TutorialProject.sln - Microsoft Expression Blend 3
File Edit View Object Project Tools Window Help
Projects Assets States
Base
Looking
Default transition
1 s
Left
right

Now if you click on either ***Left*** or ***Right*** you will enter State Recording Mode. In this mode any properties of element you change will be recorded as part of that state.



Enter the ***Left*** state and move the pupil to the left. Explore the properties of the object to achieve the best effect. Position, Width, Projection etc.

Enter the ***Right*** state and move the pupil to the right.

We'll come back to add more states in a bit but first let's add a trigger so we can see our ***Left***/***Right*** state in action. This requires a little bit of code and an event trigger attached to an object in our user control.

As we want the state to be triggered when the user moves the mouse over any part of the User Control we attach the event to the ***LayoutRoot*** grid which is the size of the entire User Control. If we wanted the event to happen when the user moves the mouse over the pupil we would put the event on the pupil.

Select the ***LayoutRoot*** grid – This is under the ***Objects and Timeline*** tab on the left.

Click the ***Events*** button under the ***Properties*** tab on the right. ⚡

In the ***MouseEnter*** box write *OnMouseEnter* and push Return.

This will take you to the code

Blend has created a method called ***OnMouseEnter*** and has put a comment where you need to add your statements. You can put anything in here but we just want the code for changing states.

Replace the comment with:

```
VisualStateManager.GoToState(this, "Left", true);
```

The three parameters are, object that wants to change state, the name of the state and if transitions should be used.

Now we are ready to run the project.

Push F5

If you have done anything wrong you will get a build error. Most of the time these point you in the right direction. If not give me a shout.

If all's gone to plan you should see your eye instantly jump to the left when you move the mouse over it.

This is nice but it would be even better with a smooth animation from on state to the other.

Go back to Blend and change the Default transition to 1s

Run the project again and the eye should now tween for 1 second creating a smooth animation of the eye turning to the left.

You can repeat these steps with a MouseLeave event if you like.

Default tweens are great because Blend does it all for you at runtime and guarantees that everything lines up from one state to another. But sometimes you want something bespoke that does run straight from point A to B.

For this we can use the timeline.

Go back to Blend and create a new State in the ***Looking*** group. Call it ***Crazy***.

In the menu select ***Window → Workspaces → Animation***

In the Objects and Timeline tab now at the bottom of the screen click on the Timeline button.

Now you can animate the eye in any way you like using keyframes.

Once you have created your animation change the trigger to point to you new state and run the animation.