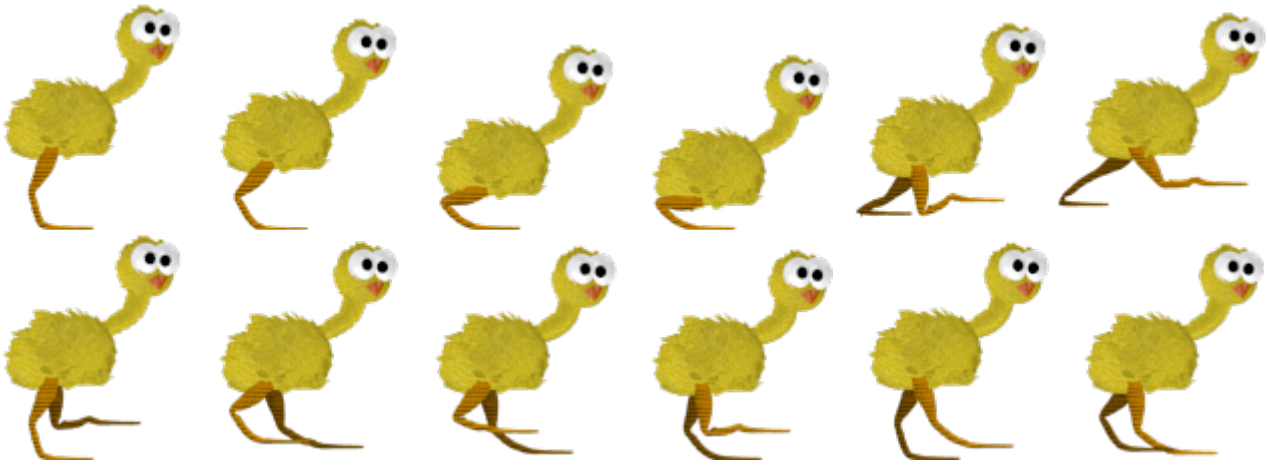
Zero Length Frames

You can use a zero length frame in order to send a key frame event without any visual indication in the animation itself. Essentially a sequence trigger.

As in the Animation Walkthrough, we'll use the chicken sprite sheet again:



Basic Config Setup

Create a standard orx project.

Start with some basic config to set up the chicken, the animation and the frames:

```
[Scene]
ChildList       = Chicken

[Chicken]
Graphic       = @
Texture       = chicken-animation-sheet.png
TextureOrigin = (0, 0, 0)
TextureSize   = (108, 115, 0)
Pivot         = top left
AnimationSet  = ChickenAnimationSet

[ChickenAnimationSet]
Texture     = chicken-animation-sheet.png
FrameSize   = (108, 115, 0)
StartAnim   = SitDownAnim
KeyDuration = 2 ; frame every two seconds
SitDownAnim = 0 ; five frames are specified, so need to keep this total up
to date.

[SitDownAnim1]
TextureOrigin = (0, 0, 0)
```

```
[SitDownAnim2]
TextureOrigin = (108, 0, 0)
KeyEvent      = SITTING_FRAME_2 # 100

[SitDownAnim3]
KeyDuration = 0
KeyEvent    = SITTING_FRAME_3 # 900

[SitDownAnim4]
TextureOrigin = (216, 0, 0)
KeyEvent      = SITTING_FRAME_4 # 230

[SitDownAnim5]
TextureOrigin = (324, 0, 0)
```

Animation Event Handler

We'll need an animation event handler so that we can print out the Key Event names and values.

At the bottom to the `init()`:

```
orxEvent_AddHandler(orxEVENT_TYPE_ANIM, AnimationEventHandler);
```

And the `AnimationEventHandler` function itself:

```
orxSTATUS orxFASTCALL AnimationEventHandler(const orxEVENT *_pstEvent){
    orxANIM_EVENT_PAYLOAD *pstPayload;
    pstPayload = (orxANIM_EVENT_PAYLOAD *)_pstEvent->pstPayload;

    switch(_pstEvent->eID){
        case orxANIM_EVENT_CUSTOM_EVENT: {
            orxLOG("<%s> / <%s> event was fired. Value: %f ",
pstPayload->zAnimName, pstPayload->stCustom.zName,
pstPayload->stCustom.fValue );
            break;
        }
    }

    return orxSTATUS_SUCCESS;
}
```

Compile and run, and we should have a basic chicken on the screen.



Analysis

The chicken will start to slowly sit down. Frames change every two seconds due to the default KeyDuration, which helps you see what's going on. Each frame will be 2 seconds unless we say otherwise in a specific frame.

The log should be something like:

```
[22:36:41] [LOG] <SitDownAnim> / <SITTING_FRAME_2> event was fired. Value:
100.000000
[22:36:45] [LOG] <SitDownAnim> / <SITTING_FRAME_3> event was fired. Value:
900.000000
[22:36:45] [LOG] <SitDownAnim> / <SITTING_FRAME_4> event was fired. Value:
230.000000
```

And the above repeats forever. You'll note the following interesting things:

There is no SITTING_FRAME_1. This is because frame 1 is defined as just a graphic change, there is no KeyEvent and KeyValue:

```
[SitDownAnim1]
TextureOrigin = (0, 0, 0)
```

However we go to next frame straight away, within the same 'tick', and, as such, this 'ghost' frame doesn't require a proper graphic to exist.

Frames 2 fires and then 3, being the next frame, fires within the same 'tick' (due to the KeyDuration of 0). And this is the real point of this tutorial. Frame 2 changes the graphic texture and fires the SITTING_FRAME_2 KeyEvent name and value of 100.

```
[SitDownAnim2]
TextureOrigin = (108, 0, 0)
KeyEvent      = SITTING_FRAME_2 # 100

[SitDownAnim3]
KeyDuration = 0
KeyEvent    = SITTING_FRAME_3 # 900
```

Frame 4 then shows for 2 seconds, SITTING_FRAME_4 fires with a value of 230.

```
[SitDownAnim4]
TextureOrigin = (216, 0, 0)
KeyEvent    = SITTING_FRAME_4 # 230
```

Frame 5 will change graphic texture, but there is no event fired:

```
[SitDownAnim5]
TextureOrigin = (324, 0, 0)
```

That's pretty much it. This is handy for firing an event on a certain frame and being able to trigger some game activity. Examples could be:

1. Footstep sounds being played when a foot contacts the ground.
2. A sword sound when the sword swings past.
3. Bullets fire when a frame is shown.

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