Overview

- The story continues: We will change the camera view during animation. Also, the user will be able to control the camera view, and move skaterGirl around on the screen.

What we will do:

6. Camera Control
   - Position camera
   - Change point of view during animation
   - Change point of view to object

7. Create several events which allow the user to interact within the animation

Step Six: Camera Control

- Now let’s learn how to change the camera view.
- Before the skaterGirl jumps, we want to move the camera in order to watch her jump from the right side.
- Click on Add Objects. You can move the camera using these buttons:
  - Use only the middle one, click and drag the camera to the right and then drag it forward and swing it around so that you’re looking at your scene from the right side. Try it slowly.
  - Remember to use undo if you make a mistake
  - See the screenshot on the next slide for your camera view

- When your scene looks like this, first play your world to make sure that you can still see the conversation and the jump

- Once you’re satisfied with the camera position, click more controls, then drop dummy at the camera
- Expand Dummy objects in the object tree. Rename ‘Dummy’ as “sideView”
Changing the View in the animation

- Click **Done** to exit the layout mode.
- Now that we have multiple views, we must specify the view at the beginning of the animation.
- Drag camera from the object tree into the very beginning of `world.myfirstmethod`. Select set point of view, Dummy Objects, originalPosition. Set duration to 0.

See the next slide for the screenshot

Set Point of View to Dummy Object

- This screenshot shows setting the camera point of view to the originalPosition.
- In `world.myfirstmethod`, right before `makeJump`, drag camera set point of view, select Dummy Objects, sideView.
- Play your world.

Create an event

- To allow the user to interact with the animation by changing the point of view, we will create an event.
- In the Events pane, click create new event. Select when a key is typed.

Set point of View to an Object

- Drag a Do Together on top of the Nothing
- Drag in the camera and select set point of view. Select skaterGirl, select her head, the entire head.
- Play your world. Press Spacebar at some point during your animation.
- See the next slide for an explanation of what went wrong.
Camera set vehicle to

- When you played your world, the camera did not move with skaterGirl when the spacebar was typed.
- We must set the camera vehicle to skaterGirl.
- Drag camera into the Do Together. Select set vehicle to, skaterGirl, her entire head.
- Play your world now

Another Event

We want the user to be able to return to the original position.

• Create a new event “when a key is typed” Click on any key, select letters, O
• Drag a Do Together from control statements up to Nothing.

Event continued

• From world.my first method right click on “camera set point of view to Original Position and make copy.
• Drag the copy to the Do Together of the event.

Event (continued)

• In the first event that changes the camera view, the camera vehicle is set to skaterGirl. So we need to set the camera vehicle when the view is changed to originalPosition in this second event.
• Drag camera from the object tree into the Do together of the event. Select camera set vehicle to, the entire world.
Play your world
• Click Play.
• Press Space to at any time to see the camera view change to skaterGirl
• Then press O to switch the camera view to originalPosition

A different type of event
• Let’s try a different type of event in order to allow the user to use the arrow keys to move the skateboard.
  • Create new event.
  • Select Let the arrow keys move
  • Scroll down in your Event pane to see the new event

• In this event, click on the camera and in the drop down menu, select skateboard, the entire skateboard
• Play your world. After the skaterGirl goes around the circle, press the spacebar to change to her view. Then use the arrow keys on your keyboard to move her around the world.

Click on an object event
• While we are working with camera control and events, let’s set up our scene for Part Four tutorial.
  • Let’s create an event so that when skaterGuy is clicked on, he says “let’s go watch the planes takeoff”. After he talks, the camera will be set to a new view to watch the takeoff.
  • First, we will position the camera and objects.
    - When we position the objects, we will add a second skaterGuy object from the gallery. This skaterGuy2 will serve as a double in the new view, instead of moving the original skaterGuy around in the world.
Positioning the Camera

- **Right click** on the camera in the object tree and select **methods**, **set point of view to**, **Dummy Objects**, **originalPosition**

Dropping the Dummy Objects

- Click on **Add Objects** to go to the gallery.
- Use the middle camera arrow. Drag the camera to the right, forward, and swing it around until the camera is facing to the right of the original scene.
  - Basically, as long as you are still on the airport, with no buildings in your scene and just a bit of green ground showing, you’re view is good.

- Now drop a dummy at the camera. In the object tree, rename “dummy” to **watchTakeOff**
- Go to the **Skate Park** folder. Drag **skaterGuy** into the world. Use the buttons to position this **skaterGuy2**. Face him away from the camera, move him close, then down and resize so that he is only at the bottom of the scene.

If you can’t find your object

- If you do not see your **skaterGuy2** in your scene, right-click on him in the object tree. (Right Click on him and select **methods, move to, camera**
  - Now drag him forward into the scene. You will probably have to make him smaller. Position him as described in the previous slide.
What to do if you can’t find your object

Sometimes, when you drag an object into your world, it appears at the origin of the world, which is not in your scene.

Scroll down to that object - be careful to click on skaterGuy2, not skaterGuy - in the object tree.

*Right click* on skaterGuy2 and select *methods, move to, camera.*

Now, drag him into your scene. If that doesn’t work, *right click* on skaterGuy2 in the object tree again and select *methods, move, left, 5 meters.*

- if it doesn’t move into the scene then, click *undo* and try to move it in a different direction (right, backward, or forward)

Once you have one object in your scene, you can use that as the reference to move all of the other objects into your scene.

Set skaterGuy2 to false, initially

- Finally, click on *skaterGuy2* in the object tree.
- In the properties tab, set *isShowing* to false.
- This is because the original scene is with skaterGuy, so skaterGuy2 shouldn’t be showing yet

Create airplaneTakeOff Method

- Click *Done* to exit the layout mode.
- Click on the *world* in the object tree. *Create a new method.* Name it *airplaneTakeOff*
- Drag in this code:

```
world.airplaneTakeOff

No parameters

No variables

skaterGuy say "Let’s go watch the planes takeoff" duration = 2 seconds

camera set point of view to watchTakeOff more...

skaterGuy2 set isShowing to true more...
```
Complete the event

• In the event’s pane, Create a new event.
Select “When the mouse is clicked on something”

• Click on anything, select skaterGuy, the entireSkaterGuy from the drop down menu
• Click on Nothing, select airplaneTakeOff from the drop down menu

Play your word

• Now play your world and test out your click event.
• In Part Three we learned about camera control and events.
• In Part Four, we will learn how to use billboards and complete the airplaneTakeOff method to simulate a plane taking off