Lesson 1.4
3.7.2020
Creating Advanced Projects

DAILY OBJECTIVE

In this lesson, students will learn how to create advanced projects in the Wick Editor, and learn how to interact with more complex animation and game creation features.

MATERIALS

Educator
- Projector and Computer to show demos

Students
- Computer to access demo resources.

PREP

Educators should work through, and create their own versions of the "Changing Faces - Animated" and "Changing Faces - Interactive" examples within Wick Editor. Educators should have a firm grasp on creating Clips and Manipulating them with small lines of code.

DEFINITIONS

Here are a few terms that you might find useful today.

1. **Clip:** An animated or interactive object in the Wick Editor. Clips have their own timelines, which allows them to have their own custom state in a project.

2. **Clip's Timeline:** The timeline belonging to the clip in question.

3. **Button:** A special type of Clip that has a special timeline with only three states "Up", "Over" and "Down" that allow it to animate in accordance with user interaction.
    -   The frame in the "Up" position will display when a mouse is not hovered over the button.
    -   The frame in the "Over" position will display when a mouse is hovered over the button.

# Section 1: Exploring Projects Together

Objective	Teachers will introduce students to the interactive projects they'll create today.
Duration	5-10 Minutes
Class Style	The class should be following along with the teacher, and asking questions about the interactive projects they'll be creating.
Materials	Computer, Projector, and Example Interactive Projects

1.1 An Animated Character in One Frame

Teachers should open the example demos listed below in Wick Editor and demonstrate the interactions and animations to students.

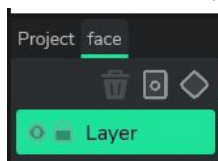|	
Direct Link	TODO: Add Direct Link
Download Link	TODO: Add Download Link
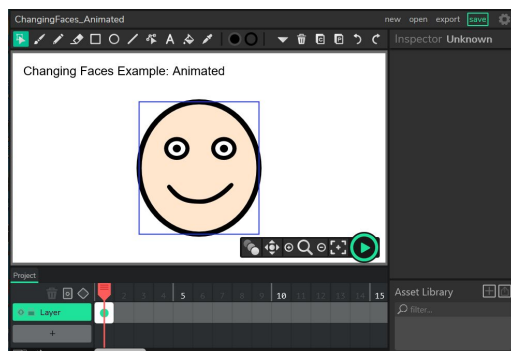
How it Works

1. Demonstrate how, upon playing the project, the face changes between three emotions "happy", "neutral" and "sad". Tell your students that this works because the face object is a Clip! A Clip is a special type of object which has its own timeline.

2. Next, pause the project and double click on the face object OR select the face and press the "Edit Timeline" option in the Inspector.

   You will see an isolated view of the face object's timeline.

3. Explain to the class that this object has its own timeline, with several named frames. Point out the three major changes that have occured visually:
   a. The background has become completely white.

   b. The timeline is showing 3 new frames.

   c. The timeline displays a new "face" tab, meaning we're inside the "face" object.
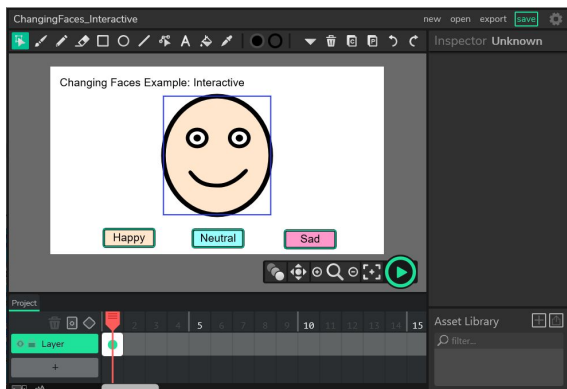

4. To get back to the project, you can press the "project" tab on the timeline.
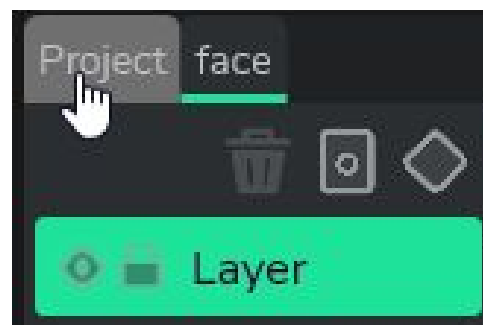
1.2 The Interactive Changing Face

This next example demonstrates how to dynamically control a clip with Buttons.

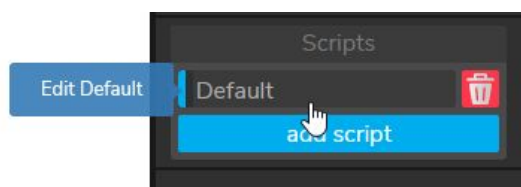| Direct Link	TODO: Add Direct Link
Download Link	TODO: Add Download Link

How it Works

1. Demonstrate how, upon playing the project, the face stays on one specific emotion until an emotion button is pressed.

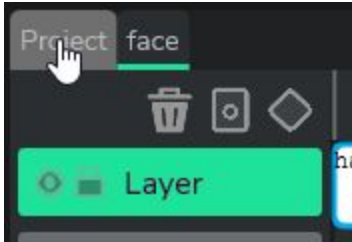2. Next, pause the project and select the face. Edit the face's timeline.
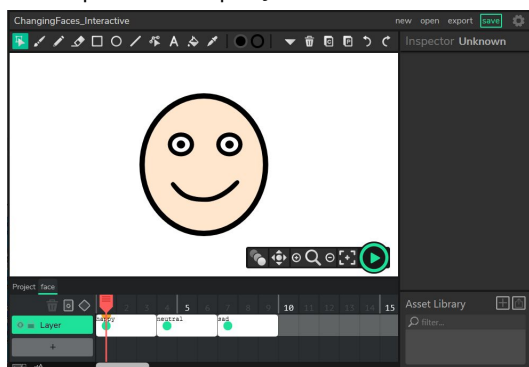
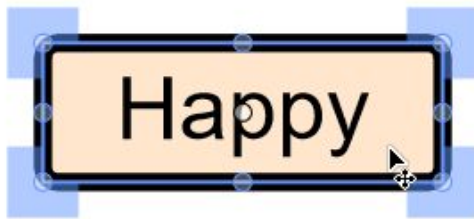3. Next, select the first frame on the timeline and open it's default script.

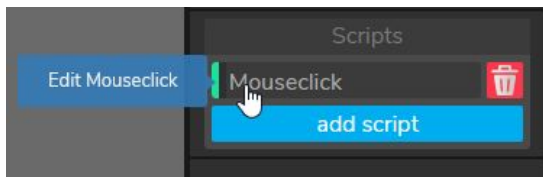Note to the students that the stop() command here is what stops this clip from animating.

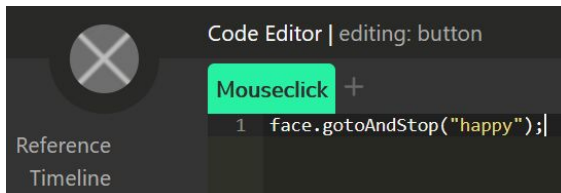4. Return to the main timeline by pressing the "Project" tab on the timeline.

5. Select one of the emotion Buttons on the canvas.

6. Open the "mouseclick" script using the scripts window in the inspector.

Point out that the face object is being called out by name here, and the "face.gotoAndStop()" command is being used to control its timeline.

Note how the name "happy" is a string (in quotation marks). This refers to the name "happy" of the frame inside of the face Clip.

Section 2: Recreating Clip Based Projects

Objective	Students will now use the Clip and Button objects to create projects of their own.
Duration	30-40 Minutes
Class Style	Students should have access to computers and a version of the example projects.
Materials	Personal Computers, Note Taking Materials

Students should now begin creating their own projects that replicate the functionality we've shown. These projects should be started from scratch!

* The challenges below are solved by the demos presented above.

2.1 Challenge - Creating an animated character

C 1	**The Animated Character** Create an animated character with a main timeline that has only one frame. **Requirements:** 1. You must use a Clip to achieve the animation. 2. The Clip should have at least 3 frames. 3. At least one frame should have a different emotion to the example project.

2.2 Challenge - Creating an interactive character

C2	**The Interactive Character** Create an interactive character that changes when buttons are pressed on the main timeline. **Requirements:** 1. You must use a Clip to create your interactive character. 2. The Clip should have at least 3 frames. 3. At least one of these frames should show a different emotion to the example project! 4. There should be interactive buttons, or elements, that allow you to change the character's state to show each emotion.

2.3 Bonus Challenge - Upgrade your buttons

C3	**Upgrading Buttons** Edit the "Up", "Over" and "Down" frames on the timelines of your interactive buttons so they react to user interaction! The simplest way to do this, is by changing color from frame to frame on the button's timeline.

PROCESS GUIDE

How to Create a Clip

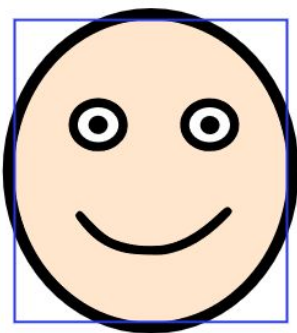Use these instructions to create an animated clip.

1. Select the element on the canvas you want to turn into a clip.
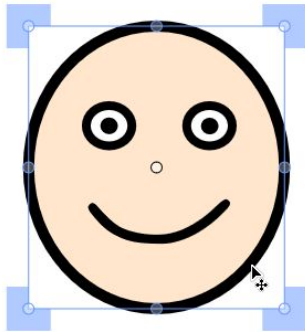
2. Select the "Make Clip" option

3. When the clip is not selected, you should see a blue box around it. This lets you know it is a clip!
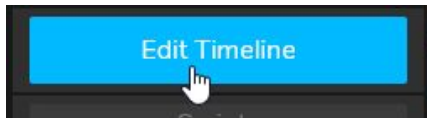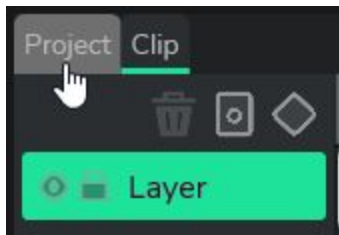
How to Enter and Exit a Clip

Use these instructions to move around clip timelines.

1. Select the clip and use the "Edit Timeline" button to enter the clip.

2. When inside the clip, press the "project" tab on the timeline to return to the main timeline.
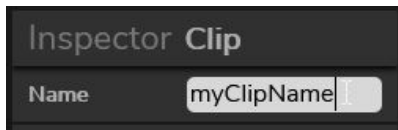
Using code to control a Clip's timeline

Use these instructions to add code that controls a clip's timeline.
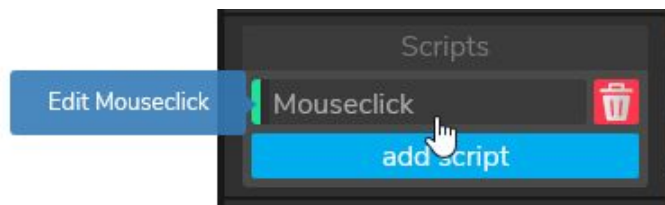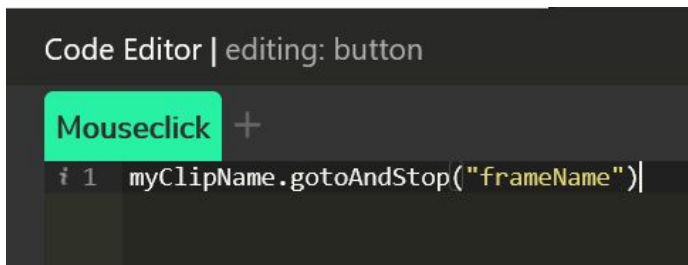
1. Name your clip in the Inspector.

2. Create an interactive button.

3. Open the "mouseclick" code tab of that button.

4. Add the code "myClipName.gotoAndStop("frameName")" to the tab.

Now when playing the project, you should be able to navigate to the frame "frameName"!

Make sure to name the frames on the Clip's timeline as well!

Common Misconceptions

Refer to misconceptions from lesson 1.2 "What is the Wick Editor?"

COMMON PITFALLS

1. Students not naming their clips

a. Clips can only be controlled if they have a name. Ensure that students have named their clip using the input in the inspector, and are using the correct capitalization in their code!

2. Adding code to the wrong level timeline

a. Students may add code to the frames on the main timeline, rather than on a Clip's timeline. This may confuse students as the interface doesn't change overtly between levels. Always ensure students are adding code to the correct level timeline!

SUCCESS CRITERIA

These success criteria are a simple way to ensure students are on track. They are designed to help educators guide conversations and example development between each day's content.

Discussion	Exploration	Application
Students should be able to describe the steps taken to achieve their 1-frame interactive and animated characters, from start to finish, without following an example or guide.	Students should be able to navigate a Wick Editor timeline, and Clip sub timelines effectively without getting lost.	Students should be able to create their own versions of the Changing Faces interactive and animated examples, including custom emotions.