Using Abode CS5 Flash to Create Open-Ended Interactive Simulations

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Components of Open-Ended Interactive Simulations

- User exploration
- Multiple paths
- Range of Consequences
- At the minimum, vicariously learning
- Smart book – feedback at critical junctures and by user choice
- Decisions determine outcomes
- Debriefing
Feedback: Does Your List Contain the Following Items?
¿Su lista contiene los siguientes items?

Pack the Following
- Compass
- Map
- Water
- Food
- Extra Clothes
- Knife
- First Aid Kit
- Flashlight
- Cell Phone

Paquete los siguientes:
- Brújula
- Mapa
- Agua
- Alimentos
- Ropa extra
- Cuchillo
- Kit de primeros auxilios
- Linterna
- Teléfono celular
Options

- Photography
- Video
- Drawing In Flash
- Hand Rendered Drawings
Pre-Production

- What assets do you have (software, hardware, personnel)?
- Who is the audience?
- Is it in multiple formats (paper handouts and digital story)?
- Brainstorm ideas for the story.
- Create a “through line” for the theme (My example through line: “Children learn survival skills while hiking in the mountains.”)
- Create Plot Points
- Create a script (must have a through line for each scene).
- Create a flowchart and thumbnails of different scenes.
- Create roughs.
- Create Storyboards.

Each Scene

1. What is going on?
2. Who is involved?
3. How should the audience feel
Casting the characters

- What is the character’s physical body makeup?

- Does the character resemble a person, animal, a plant, an object, or something no one has ever seen before?

- Is the character thin, overweight, muscular, or soft?

- Is the character tall, short, or hunched over?

- Is the character male, female, or something else?

- Does the character walk, slither, fly, or swim?

- What colors identify the character?

- What type of clothes does the character wear, if any?
Contrasting Characters

Make a size comparison chart that shows each character’s size relative to other characters in the story.
Flowcharts

Visually organizes the action sequence and development of your story.
Creating Color Palettes

1. Create a small rectangle to use as one major color for your character.

2. Select the rectangle by dragging the selection key around it.

3. Hold the **Alt** key while dragging the rectangle to the right to duplicate it.

4. Repeat for the number of major colors you need for this character.

5. Open your color panel to select one major color at a time.

6. Use the fill bucket to fill one of the triangles.

7. Type the hex color below each triangle.

8. Repeat as necessary.
**Shot Lists**

**Shot list**: Written list of the intended shots for each scene.

**Major Elements of Your Shot List**

- **Camera Framing**: What is the distance from the camera to the subject?
- **Camera Angle**: The angle the camera is placed in relation to the subject.
- **Script Description**: Written notations that identify placement of the shot in relation to what is happening in the animation.
- **Establishing shot**: Acclimates the audience to where they are and what is happening in the scene.
- **Directional Arrows**: Indicate movement within the frame.

**Scene 1: 1.** Establishing Shot: *Birds-eye view of scene then trunk camera to “Three Quarter” camera view of protagonist being bit by a rattlesnake.*  

**Script**: Page 3

Dr. Linda Wright Smith -- Interactive Storytelling
Storyboards column contains thumbnail etchings and directional arrows (roughs).

The second column contains the Shot List Camera identification and type of shot (zoom, close-up, etc.)

Description describes the action taking place in that scene.

The fourth column provides the emotion sense that should be felt during this scene.

The last column provides more ideas and the psychology driving this scene.

Shot Visualization Charts are used to guide video and still shots being created for the story.

The Storyboard example I showed previously guides the artist in making the final screens.
Storyboard  (What should be written on your storyboards)

- **Psychological Effect:** What is the mood of the story at this point?

- **Sounds:** Write down the name of the sound files that must be added at this point.

- **Color Scheme:** You already have a color palette – What are the dominant colors here?

- **Animation:** Is there any animation? Is there transitional animation to the next keyframe?

- **Characters:** Which characters will be in this scene?

- List the scripts that go with this storyboard (or Flash Keyframe).

- Write down the **Act** and **Keyframe** number (for example Act 2 Keyframe 3)
  
  **Act 1:** Establishment -- Setup of Scene and Characters (10%)
  **Act 2:** Development -- Disequilibrium Building up to Climatic Moment (80%)
  **Act 3:** Resolution -- (10% of your story)

- Write down exactly how you plan to transition to the next scene.
Caleb ran to the side of the road.

He waved his hands at a passing white pickup.

The woman in the white pickup was a Ranger. She called for help.

Caleb corrió al lado de la carretera.

Agitó las manos en una camioneta blanca que pasa. La mujer en la camioneta blanca era una Guardia del bosque.

Ella llamó por ayuda.
The Storyboard Process

- Continue re-writes of your script as needed
- Continue with your research as needed
- Draw thumbnail sketches for your visualization chart
- Create Roughs (your first full size draft of the storyboards)
- Create Final Storyboards

Questions to ask yourself as you go through

- What is the emotional goal of the story?
- What are the personalities of its characters?
- What is the overall mood of the story?
- What is the mood of each scene?
- What colors dominate each scene?
- How do you see the action unfolding?
- What character is in charge of each scene?
- How do you want the audience to feel?  

(Tumminello, pg. 67)
Once the storyboards/scripts are created you are ready to develop your story.

Ah! Oh no! No! No!" screamed Roger.

Roger jumped forward in fear and pain.

How did this happen?

The day had started out so well.

¡Ah! Oh no! ¡No! ¡No!

Roger saltó hacia adelante con miedo y dolor.

¿Cómo sucedió esto?

El día había empezado muy bien.
Rotoscopying Graphics in Flash

Insert > New Symbol (Ctrl + F8)
Name: Your Choice
Type: Movie Clip for Type and click OK

Do the following on the MovieClip Stage

Import > To Stage

(The buffalo was drinking water and heard my camera click and turned toward me. This is in the Wichita Mts. near my home.)

Import your graphic into the bottom layer. Lock the layer (click the Timeline lock).

Use pen, pencil and/or the brush tools to trace parts of your photograph.

You can use bitmaps as textures.
Graphics:
Can contain imported artwork, bitmaps, graphics, and type
Can be stored in the Library
Use the **Object Drawing** Tool to keep different part of a graphic from being edited by other graphics you add to it before you save it as a graphic symbol

Buttons:
Used for control of an element
Contains four multiple states
Using only the **Hit** state to make an invisible hyperlinked hotspot
Can use multiple layers and keyframes to add different colors, sounds, etc.

Movie Clips:
Combine other elements such as graphics, sounds, video
Have their own timeline with all the options of the main stage
Make animations that can be added to the main stage
Will run its animation even if the main stage playhead is stopped in one frame.
**ActionScript for Next Button**

```
1    stop();
2  next_btn.addEventListener(MouseEvent.CLICK, GoToNextFrame);
3  function GoToNextFrame(event:MouseEvent):void
4   {
5      nextFrame();
6   }
```

**Line 1:** internal function `stop();`; pauses the playhead in the current frame

**Line 2:** the back button has an `addEventListener` class added to it

When the mouse is clicked on the `next_btn` button, the compiler will execute the custom function named “GoToNextFrame”

**Line 5:** contains the custom function being called up by the previous action

**Line 8 and 8:** are the opening and closing brackets for the block of code

**Line 7:** is an internal function that causes the playhead to go to the next frame
**ActionScript for Back Button**

```actionscript
back_btn.addEventListener(MouseEvent.CLICK, fl_ClickToGoToPreviousFrame);

function fl_ClickToGoToPreviousFrame(event:MouseEvent):void
{
    prevFrame();
}
```

**Line 1:** stop() pauses the playhead in the current frame

**Line 2:** the back button has an addEventListener class added to it.

When the mouse is clicked on the back_btn button, the compiler will execute the function named “fl_ClickToGoToPreviousFrame”

**Line 4:** contains the custom function being called up by the previous action

**Line 5 and 7:** are the opening and closing brackets for the block of code

**Line 6:** is an internal function that causes the playhead to go back one frame.
ActionScript: Interactive Jumps

GoPack.addEventListener(MouseEvent.CLICK, f_Supplies);

function f_Supplies(event:MouseEvent):void
{
    gotoAndStop("Pack");
}

Supplies.addEventListener(MouseEvent.CLICK, f_BackSupplies);

function f_BackSupplies(event:MouseEvent):void
{
    gotoAndStop("MySupplies");
}

Jumps to List of essential items to have when hiking in the mountains. The reader makes their own list of what they would take and then clicks the button to see what is essential.

After checking their list against the master list, the reader clicks the “Back” star to return to the frame called “MySupplies.” This is their only option to leave this screen.
stop();
var myrequest:URLRequest = new URLRequest("snakesStoryPart1.swf");
var myloader:Loader = new Loader();
myloader.load(myrequest);
stage.addChild(myloader);

mybuttonAct1_btn.addEventListener(MouseEvent.CLICK, clickbutton1);
function clickbutton1(myevent:MouseEvent)
{
    var myrequest2:URLRequest = new URLRequest("snakesStoryPart1.swf");
    myloader.load(myrequest2);
}

mybuttonAct2_btn.addEventListener(MouseEvent.CLICK, clickbutton2);
function clickbutton2(myevent:MouseEvent)
{
    var myrequest2:URLRequest = new URLRequest("snakesStoryPart2.swf");
    myloader.load(myrequest2);
}

mybuttonAct3_btn.addEventListener(MouseEvent.CLICK, clickbutton3);
function clickbutton3(myevent:MouseEvent)
{
    var myrequest2:URLRequest = new URLRequest("snakesStoryPart3.swf");
    myloader.load(myrequest2);
}

mybuttonDebriefing_btn.addEventListener(MouseEvent.CLICK, clickbutton4);
function clickbutton4(myevent:MouseEvent)
{
    var myrequest2:URLRequest = new URLRequest("Debriefing.swf");
    myloader.load(myrequest2);
}
Camera Angles

- **Two Shot (Cut shot):** two characters occupy the frame

- **Insert Shot:** A close-up of an action or an object that is inserted in the main action of a master scene.

- **Low-Angle Shot:** Characters of power are often shot at a slightly lower angle to suggest their dominance. Works well when one character is positioned higher in the frame than the other.

- **Bird’s-Eye View:** position camera directly overhead of the action.

- **Worm’s-Eye View:** position camera low looking up at the action

- **Canted shot:** “Dutch” shot, views an image off-center, or tilted, so that the subject appears to be diagonal and off-balance. This effect creates an unsettling feeling with the audience.

- **Tilt Shot:** done with a fixed camera that moves on its vertical axis, tilting up or down. Used to reveal a subject by degrees.

- **Three-Quarter Shot:** “forty-five degree shot” strongest composition--camera positioned between a frontal angle and a profile shot. It provides for depth between the foreground and background elements.
- **Over-the-Shoulder Shot (OTS):** Positions the camera over the shoulder of one character revealing part of the backside of their head and shoulders in the foreground, and focuses on the character facing the camera in the background.

- **Crane Shot:** It can swoop down or up, cover great distances and producing unusual camera angles.

- **Pan Shot:** A fixed camera pivots on its axis, turning from left to right for the purpose of following the action within a shot. A pan moves across an image while maintaining equal distance from it.

- **Dolly Shot:** A camera on a dolly moves toward a subject (dolly-in) or moves away from a subject (dolly-out).

- **Tracking Shot:** The camera tracks alongside of the object or person.

- **Zoom:** The camera stays stationary as the focal length of a lens zooms in or out. **push/pull**

- **POV Shot:** the camera trades places with an on-screen character, allowing the viewer to see the action through that character’s eyes. (point of view)
The final act is the resolution after the climatic scene.

They laughed because snakes eat mice not Roger! “Roger does not taste good!” said Caleb. All three boys laughed and laughed and laughed as they looked at the pictures and talked about their adventurous day in the mountains.

Se rieron porque las serpientes comen ratones no Roger! “Roger no es muy sabrosa,” dijo Caleb. Los tres chicos se rieron y rieron y rieron mientras miraban las fotos que tomaron de su día de aventura en las montañas.
Debriefing - Post Review Of Simulation Experience and Major Themes

Before Leaving Home:

Let a family member or friend know:

- when and where you are going hiking
- when you plan to be back from the hike
- who is going with you
- what trails you plan to hike
- which trailhead you will start from

Precautions to Avoid being bitten by a Snake:

- Leave snakes alone – don’t walk up to them.
- Stay out of tall grass.
- Snakes like to rest in crevices so watch where you step.
- Don’t put your hands under rocks.
- When going around/over boulder, check out your route for any snakes.
- If snakes are on the path, turn around and find an alternate safe route for hiking.

Basic Supplies for day hikers:

- Cell Phone, Compass, Contour Map, Extra Set of Clothing,
- Emergency Fire Starting kit, First Aid kit,
- Flashlight / Mirror, Food, Rain Poncho, Water, Whistle

Rendering First Aid for a Rattle Snake Bite:

- Call for help or send someone for help
- Move bitten hiker to a safe place away from vipers
- Help the hiker lay down
- Loosen any tight clothing or jewelry
- Keep the wound below the heart
- Tell them to relax and be still
- Clean any blood from the bite area and wrap with a loose, sterile bandage

[*If you are far from the trail head and cannot call for help, follow the instruction on the emergency snake bite kit and carry the bitten hiker to the trail head or to a point where telephonic help can be called.]

- Get victim to the hospital as SOON AS POSSIBLE

Not matter what the simulation, the best hope for more than vicarious learning is for a debriefing to take place which allows the user to take away the major points that you want them to take away from the experience.
References

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