ROTOSCOPING

Rotoscoping is a sophisticated animation technique that involves filming live-action then tracing each frame to create a very fluid, lifelike movement.

Students are attracted to this process because they have "not only something to look at and take ideas from, but also make it their own".

Continuity
As in other film making efforts, it is important when rotoscoping to ensure consistency from one frame to another. Changing styles, colors, or sizes too rapidly within scenes will cause the animation to appear incoherent.

Recommendations:

- Begin working with short clips (3 to 10 sec.) Rotoscoping can be a very time intensive process.
- Use live action that contains lots of movement such as: sports footage, danci and actions that form a natural cycle (for example: juggling.)

- Tell students that yes, rotoscoping is a laborious process but there is no short to *coolness*.

- For longer animations, divide the sequence into shorter clips for different students to rotoscope, like the one bellows.

Example of a rotoscoped frame from a multi-student collaborative video.

Advantages:

- Video source footage is only used as a reference that you will draw over, so it won't actually appear in the final product.

- Rotoscoping makes it easier to animate really difficult, complex actions.

- Rotoscoping motivates students to learn more complex software applications.

- The process of rotoscoping teaches students about the reality of animating as a very time intensive activity.

LESSON PLAN

Objectives
Students will demonstrate understanding of rotoscoping as an animation technique by creating a self-portrait with Photoshop and a short animated clip. Students will attend to continuity in their style of rotoscoping.

Introduction
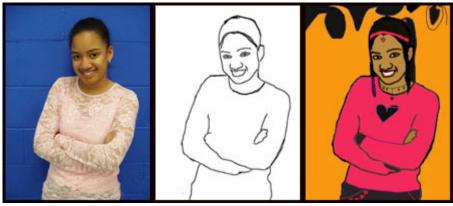Show examples of Rotoscoping:
George Dunning's *Yellow Submarine* clip "Lucy in the Sky with Diamonds"
Waking Life and this movie's "Making of' movie clip
Eminem's *Mosh – the New Ending*
A Scanner Darkly
One of the basic concepts in rotoscoping is that the animation will be created in a different layer from the original picture. For students to learn this concept have them first create a rotoscoped self-portrait in Photoshop.

Rotoscoping Self-Portraits with Photoshop
Photoshop is a multilevel, comprehensive editing program that is used not just by animators but also by graphic designers, illustrators, photographers, and other visual artists.

1. Take a digital photograph of each student and make sure to keep the background simple (for example, a blank wall).
2. Download photograph to folder in computer desktop where original and Photoshop files will be saved.
3. Open Photoshop.
4. Click File Menu > Open image. Note: If picture was taken vertically make sure to rotate image by Image Panel > Rotate Canvas.
5. Make sure that your Layer and Tool windows are open (found in Window Panel). Your photograph should be the only layer, named background, and locked (Lock sign is located on the right side. To unlock double click on layer and enter OK).
6. Create a new layer. Layer Panel > New > Layer or Click on triangle symbol found in the top right corner of the Layers Window. In the pop menu select New Layer. Note: you can also Delete or Duplicate Layers.
7. Making sure that the new Layer 1 is selected (blue highlight) begin creating a contour drawing of yourself. Use Brush or Pencil Tool (B keyboard shortcut), use Black Color, and you can also select different brush diameters near the top left

background layer. This causes the original photograph to disappear and allows you to see only Layer1.

9. Once your contour has been created you can Choose Paint Bucket Tool (G keyboard shortcut) and fill in the different parts of yourself. The two color boxes near the bottom of the Tool Window also known as the Color Picker allow you to change the background and foreground colors. To include a new background for your rotoscoped self-portrait, insert a New Layer. Make sure that Layer 2 is underneath Layer 1 in the Layer Window. To move layers, click > hold > and drag layer to new location.

10. Fill Layer 2 with Paint Bucket Tool. Once layer is filled you can also apply Styles (located in Windows Panel).

11. You may choose to delete (Step 6) the original photograph by selecting background layer in Layers Window. Make sure it is unlocked!

12. File Menu > Save As. Save your final cartoon in JPEG and PSD formats (psd file will be a backup in case you decide to go back and change afterwards.)

Tips:

Edit Panel > Undo will allow you to undo the last move. Note: the History Window will allow you to undo back to original image!

Zoom in and out according to how accurate and detailed you want your self-portrait to be. (To zoom use Zoom Tool or Ctrl/Command + or -)

Sometimes bleeding occurs when you try to fill a section because is not completely enclosed. To fix, click Undo, and then make sure that all lines in the section are closed.

Rotoscoping with Flash

There are many ways to do rotoscoping. No matter what program is chosen, the original clip will be recorded with a digital camcorder, then edited with a non-linear video program, and then rotoscoped frame by frame. Since rotoscoping requires massive amounts of drawing, sketching and developing a style in advance is highly recommended to save time. Go back to website to view 4 1/2 minutes QuickTime Tutorial about Rotoscoping with Flash.

Have students consider:

- **Style:** What type of drawing will you do? Experimenting in advance is encouraged to develop a style that you can consistently replicate throughout the animation.
- **Color:** You will be re-drawing the action but it does not have to be the same color. What happens when the hue is changed?
- **Time:** This can be a very time consuming process, so do not pick a drawing style that will take you 30 minutes per frame to complete.
- **Audio:** How does the role of audio in your animation affect the style and pace?
- Continuity or discontinuity in drawing style.
- When opening a movie to draw onto, be sure to set 'every 2nd' frame if you want 15fps (15fps is recommended) or 'every 3rd frame' if you want 10fps (10fps will mean fewer drawings, but the movement will be noticeably more jumpy as well.)
- Remember to save often for Flash may quit unexpectedly and you cannot afford to loose all the work you have already done!
- Export your final animation it into a QuickTime Movie.

Evaluation

Instructors may evaluate this project using the general rubric provided. Select or add criteria depending upon the needs or levels of your students, and/or other curricular concerns. This lesson introduces new terminology and technology therefore instructors should give a quiz about vocabulary such as rotoscoping and continuity, as well as about the new software and its uses. In addition to that formal final assessment I encourage teachers to consult with students often during the process to ensure progress, and to conduct informal, in-progress assessment thinking about questions like these:

- How reflective are students regarding their technique and design decisions?

- How well are students able to explain the concept and style involved in their production?