

## CGT 353: Principles of Interactive and Dynamic Media Animation in Flash

### Introduction:

- At it's most basic, **animation** is very simple in Flash.
- Only control a few variables such as size, position, color, and shape.
- Additional elements such as layer, masks, and guides help...., but these are still very simple components....
- It is the infinite combinations and creative applications that allow the enormous number of ideas to present themselves....
- When you use ActionScript to control and add interactivity to these movies, the number of possibilities increases even more...
- Although most of you won't become **character animators**...we use examples of character animation in this discussion because it is the most complex category of animation.



### Bit O' Flash Animation History:

- First prominent use was by *Ren & Stimpy* creator **John Kricfalusi** in the creation of **The Goddamn George Liquor Program in 1997**
- 1999 – **WhirlGirl** - first regularly scheduled Flash animated web series on Showtime
- 1999 – **The VonGhouls**
- Dot-com era - **Icebox, MondoMedia, CampChaos, MediaTrip, Bogbeast and AtomFilms**
- **Adult Cartoons** - Queer Duck, Gary the Rat, Happy Tree Friends, JibJab Homestar Runner.



### **Flash Animated TV Series:**

- 2003 *Chilly Beach* - Launched on CBC Television, this became one of the first Flash productions to make the move from online "webisodes" to national TV.
- 2004 *Foster's Home for Imaginary Friends* Launched on Cartoon Network.
- 2004 *Atomic Betty* Launched on Cartoon Network in the US.
- 2005 *The Buzz on Maggie* Canceled Disney Channel series that ran for only one season. 2005 *Disney's Little Einsteins* Multimedia pre-school show, used Flash for all principal character animation in conjunction with video, photo collage, Maya 3-D animation and After Effects.
- 2006 *Yin Yang Yo* The Second Disney series made entirely in Flash.
- 2006 *Metalocalypse* Series on Adult Swim.
- 2006 *Pucca* A Flash series based on a series of online shorts produced by VOOZ in South Korea. The TV series is produced by Studio B in Canada.
- 2006 *Chaotic* A Flash series based on the story of the original Chaotic Trading Card Game.
- 2006 *Happy Tree Friends* A very popular flash animated cartoon that started out as an internet cartoon around 1999 and it quickly became an internet phenomenon. In 2006, it became a full half-hour TV series on the channel G4.
- 2007 *Total Drama Island* Launched on Teletoon in Canada and on Cartoon Network in the US.
- 2008 *Crime Time* A popular flash cartoon by Future Thought Productions that is broadcast to television in Japan, Australia, Brazil, Russia, Turkey, Bulgaria, Malaysia, Indonesia, Brunei, Ukraine.
- 2008 *Making Fiends*

### **Flash Feature Films:**

- 2005 *The Golden Blaze* Directed by Bryon E. Carson, starring the voices of Blair Underwood and Michael Clarke Duncan, had a limited theatrical run making it the first flash animated film to be released on the big screen.
- 2005 *Xuxinha e Guto Contra os Monstros do Espaço* Directed by Clewerson Saremba e André Passos, produced at Labocine, in Rio de Janeiro, released in 2005 Christmas, was a big success in Brazil.

- 2006 *Romeo & Juliet: Sealed with a Kiss* Former Disney animator Phil Nibbelink took 4 1/2 years to make it and he drew 112,000 frames with a Wacom tablet directly into Flash 4, in combination with Moho.
- 2006 *That Darn Jesus* An animated segment of nineteen minutes produced at an aspect ratio of 1.85:1 and HD 1080 (1920 px X 1080 px) for the movie Universal Remote by Future Thought Productions.
- 2007 *Turma da Mônica: Uma Aventura no Tempo* Directed by Mauricio de Sousa, produced at Labocine, in Rio de Janeiro, is biggest box office in Brazilian animation history 2008 *El sol* First Argentinian animated movie done integrally with Adobe Flash. Directed by Ayar Blasco.
- 2007 *Chilly Beach: The World is Hot Enough* A spin off from the televised animated series Chilly Beach, as featured by <http://www.ilaugh.com> Produced by March Entertainment. 2008 *Mickey the Squirrel* Directed by Chaz Bottoms, a 76 minute feature animated on a Wacom Graphire Tablet with 6,500 frames. This film was screened at the 29th Cleveland International Film Festival.
- 2008 *Sita Sings the Blues* Directed and Produced by Nina Paley. An 83 minute feature film created independently and entirely in Flash 2008 *Waltz with Bashir*

Source: Wikipedia

### Basic Animation:

1. Frame-to-frame
2. Motion tween
3. Shape tween

Creating these animations depends heavily on the use of the following aspects, which students should know by now:

- Layers
- Frames
- Keyframes
- Onion Skinning
- Editing Multiple Frames

### 2 Basic Things to Remember With Tweening:

- Motion tweening only works on grouped items
- Motion tweening has no effect on stage objects, but shape tweening does

## Other Items:

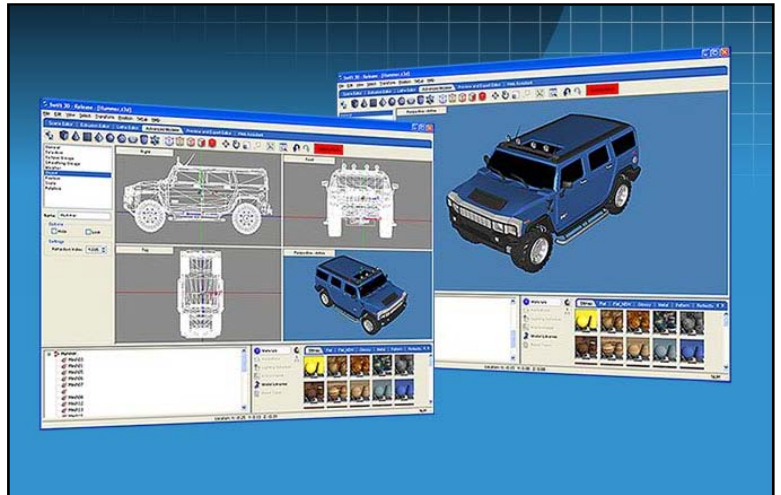
- Reversing Frames
- Guide Layers
- Masking Layers
- Shape Hints

## Another Rule of Thumb....

- Know how to make a wheel, but don't reinvent it
- Look at complementary programs like **Swift 3D**

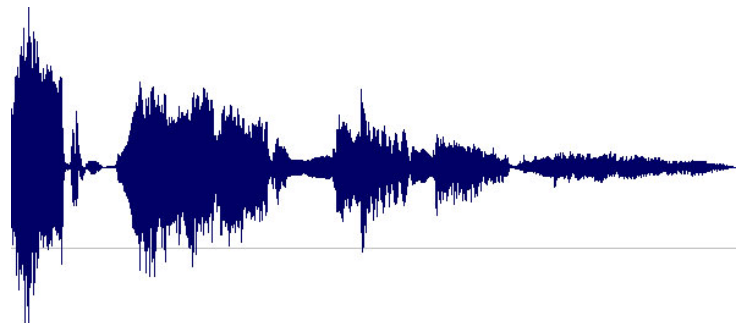
## Introduction to 2D Animation Techniques:

- Flash is a powerful tool capable of making broadcast-quality cartoons and animations...
- Most basic principles of animation apply...
- Unfortunately, there are not many Flash developers with the traditional animation skills and vice versa...



## Working with Large File Sizes:

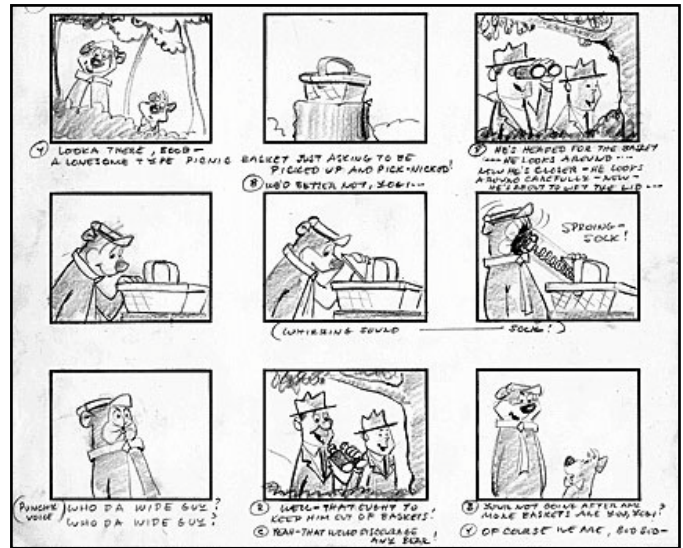
- Flash Web animations are small, but for broadcast output in Quicktime or .avi the files are quite large...
- This means to create broadcast quality Flash animations you need the right gear...
- Extensive use of **bitmaps and full-fidelity 16-bit 44 kHz stereo audio tracks** takes up a lot of space...
- Render time for such large files can take a while, and often make you think your computer has crashed....



## Storyboarding the Animation:

Although storyboarding is essential for any animation, for Flash it should be done a bit differently:

1. Break the story into workable cartoon scenes (not Flash scenes.)
2. Break each scene into camera shots.
3. Assign each scene to a separate Flash movie.
4. Assign each shot to a separate Flash scene.



## What Takes the Most Work?

Collecting your audio assets is the most difficult:

- Music tracks
- Sounds effects
- Voice overs
- There are a number of methods for obtaining sounds, but be aware of **copyright, patent, and royalty laws**.
- Your PC microphone may be sufficient for this class, but the sound quality is generally poor.
- We will be doing basic demos and exercises in lab with audio editing programs.



## Frame Rate Basics:

- Movies are shot at **24 fps...**
- For video and 3D animation, usually runs at **30 fps...**
- Can get away with **12-15 fps** for Flash cartooning..but only in select circumstances.

- Primary reason using a low frame rate is to get the animation done in your lifetime.
- Many scenes where you can get away with **3 drawings per second**.
- Rule of motion here is that **faster moving objects require fewer frames, while things that move slowly require more frames**.
- For this reason you hardly ever see slow motion sequences in broadcast cartoons.
- Remember that knowledge of Flash is no substitute for knowledge of motion.



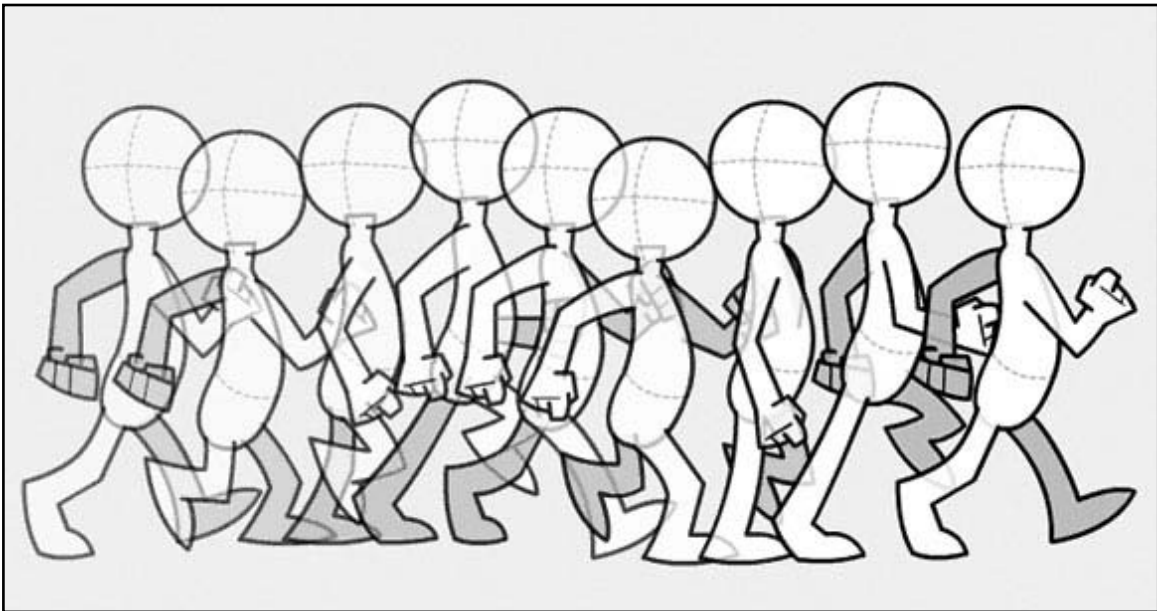
### Concepts Critical to an Effective Animation:

1. **Motion and Emotion**
2. **Anticipation** - actions characters take BEFORE they do something
3. **Weight** - makes animation believable
4. **Overlapping or Opposing Actions**
5. **Motion Blurs**



## Walk Cycles:

- Vital to character animation...
- Hard to animate because computers are too perfect whereas a walking creature is not...
- Need to add variations (head bobs, jiggles, etc...) in a walk to make it look effective...



- Pre-built walk cycles in programs like Poser help this problem.
- If you need to slow down a walk, use **repeaters**, which are duplicated frames added for each existing walk keyframe.
- Flash **onion-skinning** helps you to create in-between shots if the animation isn't smooth.

**Tip:** A timesaver to walk cycles is to isolate various components and animate them separately on separate layers. This prevents undesirable quivering movements in your animation.



### Other Design Strategies - Limited Animation:

- **Limited animation** is the process of putting animated objects and non-animated objects on separate layers.
- Allows for maximum animation with minimal artwork.
- See Hanna Barbera cartoons...

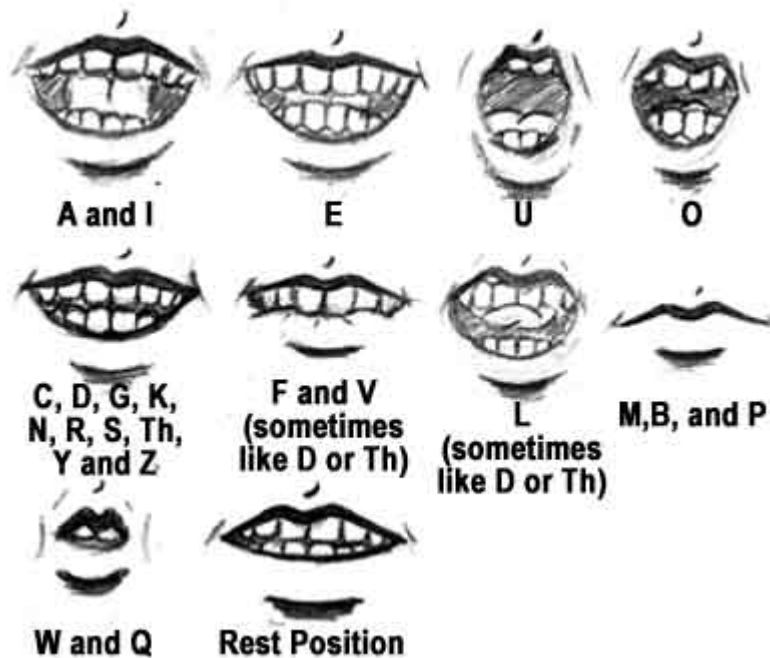


### Flash Concepts Vital to Efficient Animation:

1. Instance swapping
2. Tweens for pan and zoom
3. Motion guides

### Lip-Syncing:

- For effective lip syncing, you should draw **phonemes** for your characters
- **Phonemes (fo-neems)** are basic units of sound that make up spoken words





- Phonemes are melded together to create **morphemes**, which are distinct units of words, like syllables
- Most languages are only made up of **30 to 60 phonemes**
- For animation these can be reduced to about **10 basic mouth positions**
- Make sure you use synced sound so that you can match up the sound to the particular phoneme
- Don't try to shape morph the phonemes as its usually not worth the effort
- Talking profiles are more difficult to draw than head-on "talks" so keep them to a minimum



### Backgrounds and Scenery:

- Try to keep as few as possible in your cartoon
- To simulate motion, pans, zooms, and other camera effects, you will have to change the background
- Can layer background or scene elements to give a 3D appearance
- Remember that objects in the distance move slower than objects in the foreground
- Distant objects are also more blurred and washed-out

