**CCS352-MULTIMEDIA AND ANIMATION**

**UNIT 1**

**PART C**

Introduction

Animation is a method of photographing successive drawings, models, or even puppets, to create an illusion of movement

in a sequence. Because our eyes can only retain an image for approximately 1/10 of a second, when multiple images appear

in fast succession, the brain blends them into a single moving image.

In traditional animation, pictures are drawn or painted on transparent celluloid sheets to be photographed. Early cartoons

are examples of this, but today, most animated movies are made with computer-generated imagery or CGI.

To create the appearance of smooth motion from these drawn, painted, or computer-generated images, frame rate, or the

number of consecutive images that are displayed each second, is considered. Moving characters are usually shot “on twos”

which just means one image is shown for two frames, totaling in at 12 drawings per second. 12 frames per second allows

for motion but may look choppy. In the film, a frame rate of 24 frames per second is often used for smooth motion.

Different Types of Animation:

• Traditional Animation

• Rotoscoping

• Anime

• Cutout

• 3D Animation

• Stop Motion

• Motion graphics

The 12 Principles of Animation

The 12 Principles of Animation is a group of key teachings for the professional animator. The list has served Disney

animators since the 1930s and was outlined by Ollie Johnston and Frank Thomas in the 1981 book The Illusion of Life:

Disney Animation. Many of these foundational ideas are still utilized in classrooms and studios around the world almost 40

years later. While technology and industries have evolved with new and different ideas being integrated into animation, the

principles can still be seen in movies and web design today.

The 12 Principles of Animation are as follows:

1. Squash and stretch

2. Anticipation

3. Staging

4. Straight-ahead action and pose-to-pose

5. Follow through and overlapping action

6. Slow in and slow out

7. Arc

8. Secondary action

9. Timing

10. Exaggeration

11. Solid drawing

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05. Follow through and overlapping action

When objects come to a standstill after being in motion, different parts of the object will stop at different rates. Similarly,

not everything on an object will move at the same rate. This forms the essence of the fifth of Disney's principles of animation.

If your character is running across the scene, their arms and legs may be moving at a different rate from their head. This is

overlapping action. Likewise, when they stop running, their hair will likely continue to move for a few frames before coming

to rest – this is follow through. These are important principles to understand if you want your animation to flow realistically.

06. Slow in and slow out

The best way to understand slow in and slow out is to think about how a car starts up and stops. It will start moving slowly,

before gaining momentum and speeding up. The reverse will happen when the car brakes. In animation, this effect is

achieved by adding more frames at the beginning and end of an action sequence. Apply this principle to give your objects

more life.

07. Arc

When working in animation, it's best to stick with the laws of physics. Most objects follow an arc or a path when they're

moving, and your animations should reflect that arc. For example, when you toss a ball into the air, it follows a natural arc

as the effects of the Earth's gravity act upon it.

08. Secondary action

Secondary actions are used to support or emphasise the main action going on within a scene. Adding secondary actions help

add more dimension to your characters and objects.

For instance, the subtle movement of your character’s hair as they walk, or perhaps a facial expression or a secondary object

reacting to the first. Whatever the case may be, this secondary action should not distract from the primary one.

09. Timing

For this principle of animation we need to look to the laws of physics again, and apply what we see in the natural world to

our animations. In this case, the focus is on timing.

If you move an object more quickly or slowly than it would naturally move in the real world, the effect won't be believable.

Using the correct timing allows you to control the mood and the reaction of your characters and objects. That's not to say

you can't push things a little (especially if you're creating an imaginary world) – but if you do, be consistent.

10. Exaggeration

Too much realism can ruin an animation, making it appear static and boring. Instead, add some exaggeration to your

characters and objects to make them more dynamic. Find ways to push the limits just beyond what's possible, and your

animations will pop.

11. Solid drawing

You need to understand the basics of drawing. This includes knowing how to draw in three-dimensional space and

understanding form and anatomy, weight and volume, and lights and shadows.

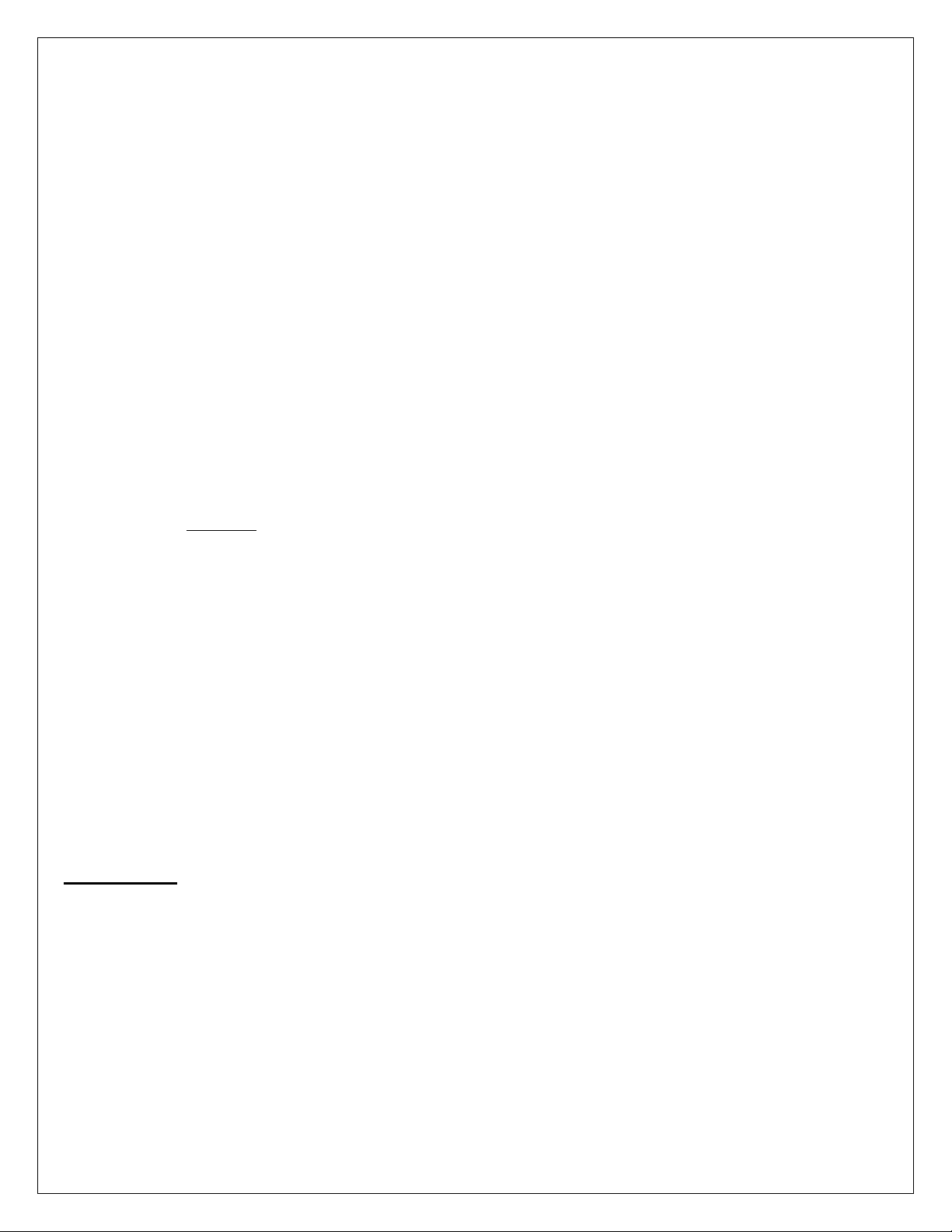
While you can push the limits here, too, it's important to remain consistent. If your world has wonky doors and a warped

perspective, keep that perspective throughout the entire animation. Otherwise, things will fall apart.

12. Appeal

Your characters, objects, and the world in which they live need to appeal to the viewer. This includes having an easy-to-

read design, solid drawing, and a personality. There is no formula for getting th

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2D graphics Applications:

1)

Media and Film industry.

2)

Architecture.

3)

Interior Designing.

4)

Product Designing.

5)

Publications.

6)

Graphic Designing. Etc

3D Three D (Dimensional) refers to the three dimensional (measurement or aspect) graphical representation of a physical

space/world. It technically refers to any material object, form, shape and space having following properties:

1)

Height or Vertical property called Y axis (direction).

2)

Width or Horizontal property called X axis (direction).

3)

Distance or Depth property called Z axis (direction).

It is also called three axis graphical representation. The popular examples of 3D graphics (also imagery) are Computer

graphics design (3D) and real