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FACULTY OF ENGINEERING & TECHNOLOGY

BCS -504 Computer Graphics & Multimedia

Lecture-37

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OUTLINE

- TYPES OF ANIMATION
- 3D ANIMATION
- 2D HAND-DRAWN ANIMATION
- 2D VECTOR ANIMATION

Types of Animation

There are many different types of animation, some of which you're probably already familiar with, so let's do a quick rundown of the different types of animation and what the **differences** and **similarities** are.

3D Animation

3D, also referred to as **CGI** (computer generated imagery), is the most popular type of animation for **feature films** currently, and it's become common in TV and short films as well.

This is also the same type of animation used to create digital characters for **live-action** films and animation for **video games**.

An animator uses a digital puppet (called a **character rig**) to position the character, and then use a system of motion paths (or splines) to define the movement of the character between those poses.

The computer proceeds to interpolate the frames of the animation in between the key frames. The animator then refines these frames until they are satisfied with the animation.

3D animation is a technically intensive process, which often involves many separate specialists to model the character, rig it with bones and controls, animate it, and then texture and light it for the final output.

3D Animation

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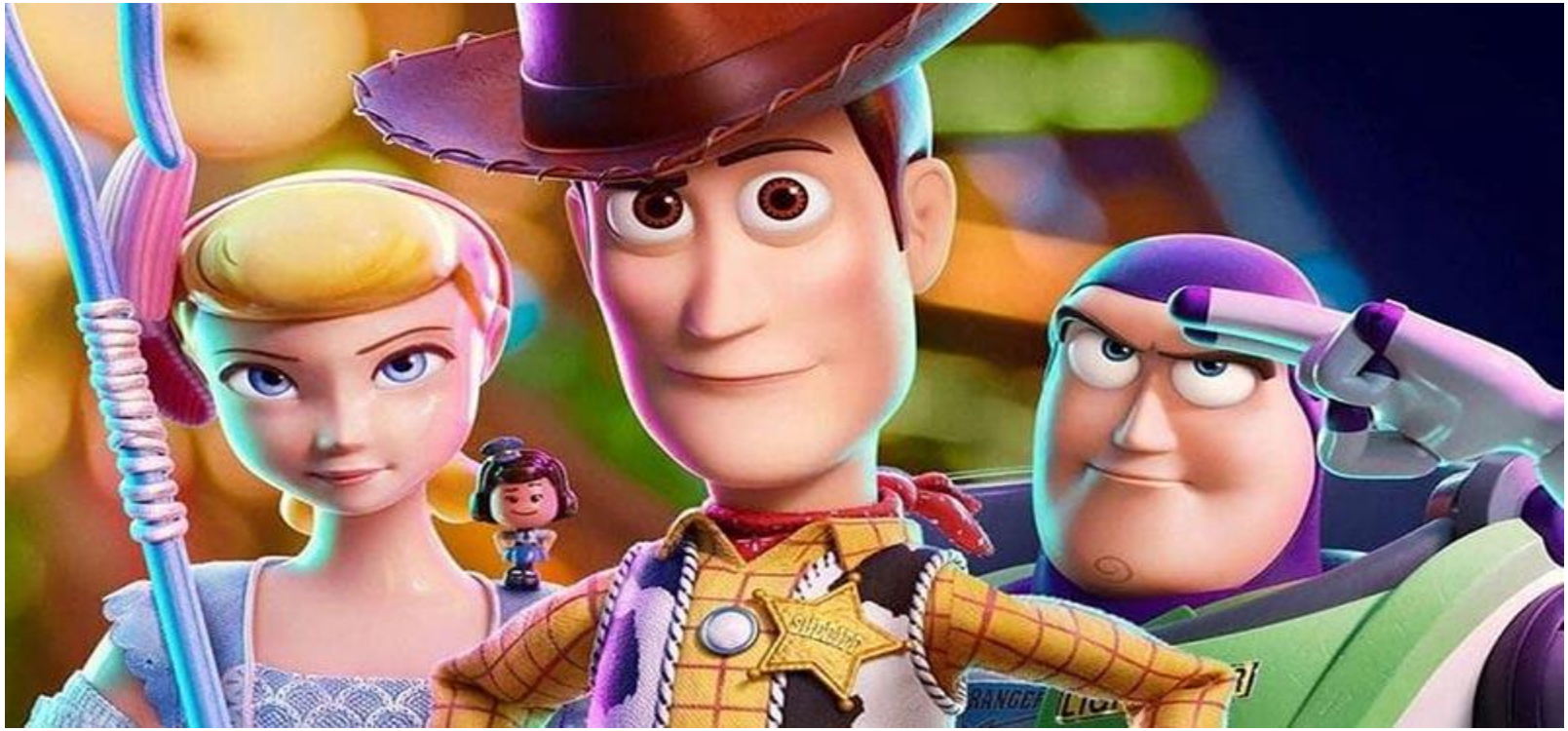


2D Hand-Drawn Animation

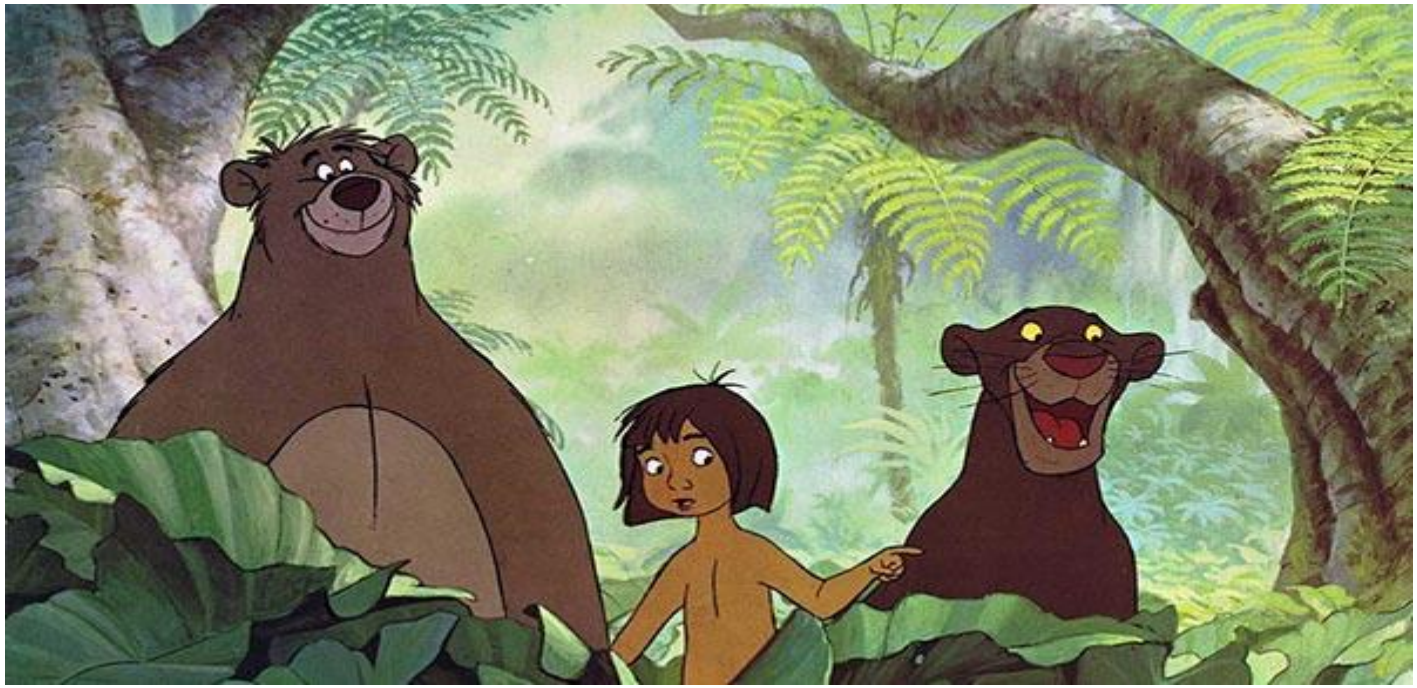
The first type of 2D animation might be called traditional animation or cel animation. I prefer the term hand-drawn animation because that define its most important aspect - the fact that it is drawn by hand.

This is the classic type of animation you're probably most familiar with. In the old days, animators drew characters frame by frame, and then those drawings were transferred onto clear acetate sheets called cels for painting. That's where the term **cel animation** comes from.

Through the 1990s almost all animation studios stopped using cels and started scanning drawings into the computer for **digital coloring**, and now many hand-drawn animators skip paper altogether and draw directly into the computer using a **tablet** or **Wacom Cintiq monitors**.

So hand-drawn animation could be done entirely analog or entirely digitally, or some mix of the two. The important thing is that hand drawn animators still create their animation **frame by frame** using the same techniques and principles as in those old days of paper and cels.

2D Hand-Drawn Animation



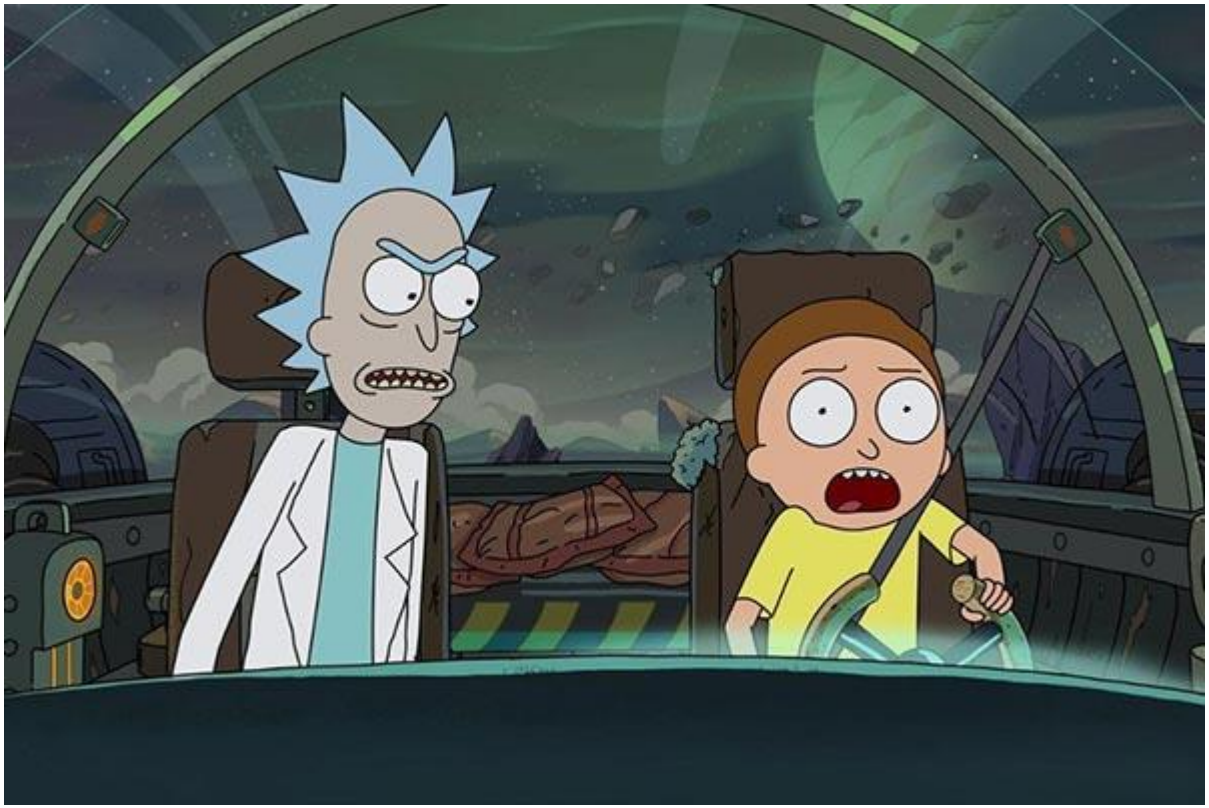
2D Vector Animation

Nowadays there are new ways to create 2D animation using a 2D **digital puppet**. These are 2D characters which are built with a system of bones and controls that can be manipulated in a way similar to a 3D character rig.

The difference between 2D rigged characters and hand-drawn characters can get a bit blurry. Programs like **Toon Boom Harmony** and **Adobe Animate CC** let you seamlessly mix and match hand-drawn animation with 2D puppet techniques, sometimes even within the same character.

A character could have bones that let the animator pose it, but also have other parts that are animated by hand.

2D Vector Animation



Multiple Choice Question

MUTIPLE CHOICE QUESTIONS:

Sr no	Question	Option A	Option B	OptionC	OptionD
1	A…….. is required to display the image, encompassed by the window, in the viewport.	composite transformation	Pivot transformation	coordinate transformation	none of these
2	A graphics package allows a user to specify which part of a defined …….. and where that part is to be placed on the display device	position	picture is to be displayed	image	none of these
3	2D viewing deals with the procedures for displaying views of a …..-dimensional picture on an output device.	4	2	3	1
4	A view for a 2D picture is selected by specifying a region of the……. that contains the total picture or any part of it.	xy	yw	zy	xw
5	Picture parts within the selected areas are then mapped onto …….. of the device coordinates	specified areas	particular areas	both a & b	none of these

REFERENCES

- http://www.engppt.com/search/label/Computer%20Graphics