**TOP TWO ANIMATED MOVIES AND THEIR CREATION**

Submitted by:

|  |  |
| --- | --- |
| TANISH GARG | 102003520 |
| ESHITA ARORA | 102003522 |
| LAVANYA GUPTA | 102003526 |
| GAUTAM JAIN | 102003533 |

Under the guidance of

DR. GURVINDER KAUR



# 

# **TOP TWO ANIMATED MOVIES AND THEIR CREATION**

**1**

### **COPYRIGHT NOTICE**

Copyright © 2021, by THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY

All rights reserved

No part of this report may be reprinted or reproduce in any form or by any electronic, mechanical, or utilized in any other form or other means, now known hereafter invented, including photocopying and recording, or in any information storage or retrieval system without permission in writing from the

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, except the brief use of quotation.

### 

2

### **LETTER OF TRANSMITTAL**

Date: 9th June, 2021

Respected Ma’am,

We, the undersigned students of BE (1st year) batch, are submitting our report entitled “Top two Animated Movies and their Creation” as a part of a partial requirement of our Professional Communication course.

This report enabled us to gain insight into the core facts of **Computer Animation.** Animation is a method in which figures are manipulated to appear as moving images. Animation is more pervasive than many people know. Apart from short films, feature films, animated movies, animated GIFs, and other media dedicated to the display of moving images, animation is also prevalent in video games, motion graphics, user interfaces and visual effects.

The report will prove a great help for people who want to conduct research on similar topics. The report includes statistical analysis of the responses we got from our survey. We also provide some examples which might act as a foundation base for someone to have more ideas.

Yours Sincerely,

Tanish Garg (102003520)

Eshita Arora (102003522)

Lavanya Gupta (102003526)

Gautam Jain (102003533)

3

**CERTIFICATE**

This is to certify that the report titled “TOP TWO ANIMATED MOVIES AND THEIR CREATION” embodies the original work done by the under-mentioned students of group 1CO21 under my supervision.

|  |  |
| --- | --- |
| TANISH GARG | 102003520 |
| ESHITA ARORA | 102003522 |
| LAVANYA GUPTA | 102003526 |
| GAUTAM JAIN | 102003533 |

Thapar Institute of Engineering & Technology, Patiala, Punjab

Name of Supervisor:

Date: 9th June, 2021

DR. GURVINDER KAUR

**4**

**ACKNOWLEDGEMENT**

This report would not have been possible without the kind support and help of many individuals. We would like to extend our sincere thanks to all of them. We are highly indebted to DR. GURVINDER KAUR for her guidance and constant supervision. We are also extremely thankful to our institute TIET for giving us the opportunity to conduct this study and providing us with the necessary means to complete it. The completion of this project report could not have been accomplished without the support of our classmates.

We would like to thank each and every person who directly or indirectly helped us in the completion of the project, especially our parents for their cooperation and encouragement.

**5**

**INDEX**

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Title** | **Page No.** |
| **1** | **INRODUCTION** | **8-9** |
| **2** | **HISTORY & EVOLUTION** | **10-13** |
| **3** | **TYPES OF ANIMATION** | **14-15** |
| **4** | **PRINCIPLES OF ANIMATION** | **16-20** |
| **5** | **ANIMATION PRODUCTION PROCESS** | **21-25** |
| **6** | **FIRST MOVIE “YOUR NAME”** | **26-29** |
| **7** | **SECOND MOVIE “THE LION KING”** | **30-33** |
| **8** | **REFERENCES** | **34** |
| **9** | **CONCLUSION** | **35** |

6

### **ABSTRACT**

The main objective of this report is to understand and admire the art of animation itself. The art of animation has most certainly come a long way today. In this modern day and age, most animations are done through computer technology. Famously known as CGI (computer-generated imagery). This is the art of manipulating pictures to appear as moving images. This process includes designing, drawing, creating layouts and then preparing photographic sequences. From the cartoons of the 60’s to the Avengers End Game type of movies you may have seen this 2020, animation has definitely come a long way; And It still has the potential to go much further.

3D Animation has 3 main sections:

• Layouts –The process of layout is used in the positioning of objects.

• Modeling – Generating process of 3D objects.

• Rendering – Completed 3D Animation output creating process.

Visual preferences of people always play a significant role in helping to decide the individual’s likings between 3D and 2D Animation. Anyway, there are some other important factors like target audience, timelines, and budgets: which also help an individual’s choice of animation. But at the end of the day, 3D animation is the future of animation. 3D animation will always be the base and core of evolving animation art.

Animation is important because it makes us be able to tell stories and communicate emotions and ideas in a unique, easy-to-perceive way that both small children and adults can understand. Animation has helped connect people throughout the world in a way that sometimes writing and live-action films cannot.

7

**INTRODUCTION TO ANIMATION**

Background of the Study

A study by Disney Studios shows that the love for animation starts developing in children from their childhood. All anime lovers used to watch a lot of animated movies and cartoons when they were young. Some of them still do. Thoughts were how difficult it might have been to make a certain movie that was in theatres at that moment. Until now, realisation about how much more complicated it is to make an animated movie as compared to a live action one. Being an admirer of 3D animation movies helped in creating a project on 3D animation. The main purpose is that when this project was started, the intention was to make people value those movies more that they considered just “for children” or “little kids”. Motive was that at least one person can change their mind about animated movies or cartoons, this project would have been worth it. As you will read later, a lot of difficulties were being faced during this process but managed to solve everything in one way or another. Hoping for your contentment while reading!

Purpose & Scope of Study

In multimedia instruction, computer graphics play an important role in helping people interpret and understand scientific concepts. The use of this platform introduces a new kind of visibility in mathematics learning as it promotes understanding a stronger perception of abstract material. The user becomes a manager of computing and this saves time. The various computer techniques of animation and morphing provide promising horizons for educational technology as well. It makes us able to tell stories and communicate the emotions and ideas in a unique, easy to perceive way that adults and children alike can understand. Computer animation is essentially a digital successor to stop motion techniques, but using 3D models, and traditional animation techniques using frame by frame animation of 2D illustrations. Today, animation courses have a wide scope in the market, and it is an apt field for those who want to turn imagination into reality. Another positive aspect of Computer Generated Animation is the fact one can create a flock of creatures to act independently when created as a group. For instance, an animal's fur can be

8.

programmed to wave in the wind and lie flat when it rains instead of separately

programming each strand of hair. Thus, animation is one of the most powerful creative tools we have, and we should continue to use it as a form of uniting people.

Basic Principles and Theories Involved

The basic 12 principles of animation were first introduced by animators Ollie Johnston and Frank Thomas in their book The Illusion of Life: Disney Animation, first released in 1981. A blend of all these principles is behind the beautiful anime we watch. These include: squash and stretch, anticipation, staging, straight ahead action and pose to pose, follow through and overlapping action, slow in and slow out, arc, secondary action, timing, exaggeration, solid drawing and appeal. Forming the basis of all animation work, these principles are relevant for a number of different fields. These rules are also an invaluable guide in other areas, for instance, when introducing motion into your interface with some CSS animation.

Components of Study

The project is divided into several parts. The first one is a little introduction of the general concept of animation. The second part focuses more on its history and evolution through time. Then, the discussion for the three main types of animation will be done as well as explanation on its twelve principles, which were created by Disney employees. After that, it will be described how big studios like Ghibli or DreamWorks create their animated films. Then, review the top two animated movies, also explaining their similarities and differences. Finally, describe the experiences of the people who had put their effort in making this project and sum up their thoughts on the whole project in the conclusion section.

9

**HISTORY & EVOLUTION**

*ANIMATION MEANS GIVING LIFE TO ANY OBJECT IN COMPUTER GRAPHICS.IT HAS POWER OF INJECTING ENERGY AND EMOTIONS INTO THE MOST SEEMINGLY INANIMATE OBJECTS.*

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 approx. 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.

1. Beginning Of Animation

Over the years, historians have found different art samples that attempted to simulate the sensation of movement. Obviously, they were not considered “animation” yet but it was a good start. The first attempts of animation in history can be seen in some prehistoric cave paintings. Different drawings of wild animals with superimposed sets of legs of that time have been found. Those drawings give the impression as if the animals were running somehow. However, we can also think that the reason for the unnatural quantity of legs is that they simply wanted to change their position and didn’t have any means of erasing. Another early approach to motion in art is the illustration found in a 5,200-year old pottery bowl in Shahr-e Sukhteh, Iran. Its pattern is formed by five images that show the phases of a goat leaping out to nip a tree. Another example is an Egyptian mural found in the tomb of Khnumhotep at the Beni Hassan cemetery. It is approximately 4000 years old. The Mural shows a very long series of images that illustrate a sequence of events in a wrestling match between two men. It is a very curious wall painting due to the fact that Egyptian hieroglyphics and art in general tend to represent very static figures but in the mural we can easily see different poses and postures.

1. 1800-1900

The history of animation started long before the development of cinematography.

10

Humans have probably attempted to depict motion as far back as the paleolithic period.

Much later, shadow play and the magic lantern (since circa 1659) offered popular shows with projected images on a screen, moving as the result of manipulation by hand and/or minor mechanics. In 1833, the stroboscopic disc (better known as the phenakistoscope) introduced the stroboscopic principles of modern animation, which decades later would also provide the basis for cinematography. Between 1895 and 1920, during the rise of the cinematic industry, several different animation techniques were developed, including stop-motion with objects, puppets, clay or cutouts, and drawn or painted animation. Hand-drawn animation, mostly animation painted on cels, was the dominant technique throughout most of the 20th century and became known as traditional animation.

There are several examples of early sequential images that may seem similar to series of animation drawings. Most of these examples would only allow an extremely low frame rate when they are animated, resulting in short and crude animations that are not very lifelike. However, it's very unlikely that these images were intended to be somehow viewed as an animation. It is possible to imagine technology that could have been used in the periods of their creation, but no conclusive evidence in artifacts or descriptions have been found.

Early examples of attempts to capture the phenomenon of motion into a still drawing can be found in paleolithic cave paintings, where animals are sometimes depicted with multiple legs in superimposed positions or in series that can be interpreted as one animal in different positions.

1. 1910-1940

When cinematography eventually broke through in 1895 after animated pictures had been known for decades, the wonder of the realistic details in the new medium was seen as its biggest accomplishment. It would take some more years before animation reached movie theaters During the 1910s, the production of animated "cartoons" became an industry in the US. Successful producer John Randolph Bray and animator Earl Hurd, patented the cel animation process that dominated the animation industry for the rest of the century. Felix the Cat, who debuted in 1919, became the first animated superstar.

When cinematography eventually broke through in 1895 after animated pictures had

11

been known for decades, the wonder of the realistic details in the new medium was seen as its biggest accomplishment. It would take some more years before animation reached movie theaters During the 1910s, the production of animated "cartoons" became an industry in the US. Successful producer John Randolph Bray and animator Earl Hurd, patented the cel animation process that dominated the animation industry for the rest of the century. Felix the Cat, who debuted in 1919, became the first animated superstar.

1. 1940's

In 1937, Walt Disney Studios premiered their first animated feature, Snow White and the Seven Dwarfs, still one of the highest-grossing traditional animation features .The Fleischer studios followed this example in 1939 with Gulliver's Travels with some success. Partly due to foreign markets being cut off by the Second World War, Disney's next features Pinocchio and Fleischer Studios' second animated feature Mr. Bug Goes to Town (1941/1942) failed at the box office. Other countries developed their own animation industries that produced both short and feature theatrical animations in a wide variety of styles, relatively often including stop motion and cutout animation techniques.

Animation has become very popular on television since the 1950s, when television sets started to become common in most developed countries. Cartoons were mainly programmed for children, on convenient time slots, and especially US youth spent many hours watching Saturday-morning cartoons.

While US animated series also spawned successes internationally, many other countries produced their own child-oriented programming, relatively often preferring stop motion and puppetry over cel animation. Japanese anime TV series became very successful internationally since the 1960s, and European producers looking for affordable cel animators relatively often started co-productions with Japanese studios, resulting in hit series such as The Jungle Book (Italy/Japan 1989).

1. Late 20th century

Most of the cel animation studios switched to producing mostly computer animated films around the 1990s, as it proved cheaper and more profitable. Not only the very popular 3D animation style was generated with computers, but also most of the films and series with a more traditional hand-crafted appearance, in which the charming characteristics of cel animation could be emulated with software, while new digital tools helped develop new

12

styles and effects.

The so-called 3D style, more often associated with computer animation, has become extremely popular since Pixar's Toy Story (1995), the first computer-animated feature in this style.

In India, even before the birth of animation, shadow-puppet traditions used images to tell stories. A notable example is the dance of the leather puppets ("tholu bommalata") from the state of Andhra Pradesh. The puppets used were large, had multiple joints, and were colored on both sides. This meant that colored shadows were projected onto the screen. Performances were accompanied by music. Folk tales and various epics such as the Mahabharata and Ramayana were dramatized.

1. Early 21st century

Due to the complexity of human body functions, emotions and interactions, movies with important roles for fully 3D-animated realistic-looking human characters have been rare. The more realistic a CG character becomes, the more difficult it is to create the nuances and details of a living person, and the greater the likelihood of the character falling into the uncanny valley. Films that have attempted to create realistic-looking humans include Final Fantasy: The Spirits Within in 2001, Final Fantasy: Advent Children in 2005, The Polar Express in 2004, Beowulf in 2007 and Resident Evil: Degeneration in 2009.

The creation of virtual worlds allows real-time animation in virtual reality, a medium that has been experimented with since 1962 and started to see commercial entertainment applications in the 1990s.

In the first decades of the 21st century, computer animation techniques slowly became much more common than traditional cel animation. To recreate the much-appreciated look of traditional animation for 3D animated techniques, cel-shading techniques were developed. True real-time cel-shading was first introduced in 2000 by Sega's Jet Set Radio for their Dreamcast console.

In the digital era, animation can do more than just entertain children with a boat-driving mouse. It’s an effective tool for visual communication. Of course, it offers a whole new medium for expression and creativity, but on a more practical level, the movement of animation attracts more attention than static images. And considering the restraints of live footage, sometimes an animation of a bouncing ball works best.

13

**TYPES OF ANIMATION**

1. Traditional Animation

Traditional animation (also known as hand-drawn animation or classical animation) is an animation technique where all the frames used to create the illusion of motion are first drawn on paper by hand. This process was the most used until the appearance of computer animation (explained below). With the evolution of technology, the traditional animation process became obsolete by the beginning of the 21st century. Nowadays, the backgrounds and characters designs from the animators are either scanned into or drawn directly into a computer system. Although computer technology has assisted animators in their efforts over the years, the final result still looks like the traditional animation did at the beginning and it has remained essentially the same over the past 70 years. Today, there are people that use the term “tradigital” to describe this classical animation which is assisted digitally. Some popular traditionally animated films are Snow White and the Seven Dwarfs (1937) and Pinocchio (1940).

2. Stop Motion Animation

Stop Motion animation or Stop Frame animation is a cinematic process or technique used to make real-world objects appear as if they were moving. Those objects are physically manipulated and photographed every time after being moved between frames. When the sequence of images are displayed rapidly, the objects are “brought to life”. This technique is very similar to the traditional animation one, except that instead of drawings use physical objects. There are many different types of stop motion animation and they are usually named after the medium used to create the animation. For example claymation or clay animation is a form of stop motion that uses figures made of clay, like Wallace & Gromit. Puppet animation is the one that uses still puppets, as in Coraline (2009). This technique is

14

used in a lot of Tim Burton’s movies. Early stop motion was captured with film cameras. Animators could not see how their work looked until they got their film processed. If the animation was not fluid, if the set had been bumped, or the lighting was bad, the work was lost and the animator had to start all over again.

3. Computer Animation

Computer animation, also called CGI animation, is the technique used by generating animated images with computer graphics. Computer animation is broken down into two categories. Computer-assisted animation is when traditional animations are computerized. On the other hand, computer-generated animation is the one designed solely on the computer system using animation and 3D graphics software. Modern computer animation usually uses 3D computer graphics but 2D computer graphics are still used from time to time. Computer-generated animation is very useful when it comes to creating crowd scenes or special effects, etc. Nowadays, most animated movies are created using computer graphics. Pixar, Dreamworks or even Disney, are studios that are using this type of animation to create the majority of their movies. Some examples of computer-generated films are How to Train Your Dragon (2010), Tangled (2010), Brave (2012), etc.

15

**12 PRINCIPLES OF ANIMATION**

The twelve basic principles of animation were developed by Walt Disney Studios’ animators during the 1930s. Amongst them were Frank Thomas and Ollie Johnston, who published them in their book The Illusion of Life: Disney Animation, in 1981. Those principles came as a result of their effort to produce more realistic animations through movement and expression of the character’s body. The principles follow the basic laws of physics but also deal with more abstract issues, such as emotional timing and character appeal. They were used as guidelines to create cartoons at that time and are still used today in many animation studios, where the book The Illusion of Life has been referred to by some as the “Bible of animation”.

1. Squash & Stretch

This action is considered the most important of the twelve principles. It gives the illusion of weight, volume and flexibility to the characters (and also objects) as they move. Squash and Stretch is useful in animating dialogue and doing facial expressions because it can be applied to simple objects like bouncing balls and also more complex constructions, like the musculature of a human face. The more extreme the use of this principle is, the more comical it is. However, it is the most commonly used and the first technique animators learn to master.

2. Anticipation

This principle prepares the audience for a major action the character is about to perform (like starting to run or jumping) and makes the mentioned action appear more realistic. A dancer cannot just leap off the floor. A backwards motion occurs before the forward action

16

is executed. The backward motion is the anticipation. To create this principle, animators studied the anticipation almost all real actions have, for example a golfers’ backswing or a pitcher’s wind-up. After doing that, they applied it to their animations and gave them more personality.

3. Staging

Staging is a principle whose main purpose consists in directing the audience’s attention to what is important in a scene, whether that idea is an action, a personality, an expression or a mood of the characters in the frame. In other words, staging is used to keep focus on what is relevant and avoid unnecessary details. To stage correctly, animators have to make the background and the animation work together as a pictorial unit in a scene. Every sequence must relate somehow to the overall story and provide information to the viewers about the characters and the location of the story, the historical moment, etc. This technique is also used in theatre and film. The idea of staging is finding the effective use of different camera angles, light and shadow, the placement of a character in the frame, etc. to help in telling the story and developing its plot.

4. Straight ahead action and pose to pose animation

Animators use the expression “straight ahead action” when they draw out a scene frame by frame from beginning to end. This technique is very useful to create fluid and dynamic illusion of movement but the animation can lose size, volume and proportions. It is used in fast, wild action scenes because it provides spontaneity and freshness to the final result. Pose to pose is very a little bit different. First of all, animators plan out the scenes they have to develop and do key drawings at intervals that, later on, will be handed to their assistants who will fill the intervals and finish the animation. Size, volumes and proportions are controlled better this way. This method works better for dramatic or emotional scenes, where composition and relation to the surroundings are of greater importance. Many scenes are created using a combination of both methods.

5. Follow through & overlapping action

These are two concepts that together help to represent movement more realistically. Follow through consists in avoiding the sudden stoppage of a character and making all other parts of its body continue to move after it has stopped in order to catch up with the rest of the

17

main mass. The main purpose of the overlapping technique is to avoid any “robotic effect” and give more fluidity to the character’s movement. It is used by animators to emphasize the action and mood of the character by moving the different parts of the character’s body at different speeds and at different times. When it moves, some parts of the body lead the action and the others follow the main action. Normally, arms and legs follow the movement of the torso. “Drag” is another popular technique where the “following parts” of the body take a few more frames to catch up with its “leading parts”. For example, if a character starts running, his head, ears, upper body and clothes may not keep up with its legs. That way, it would look as if the character was running as fast as he could. Another example we can use is the famous dance scene from Snow White and the Seven Dwarfs. In it, she starts dancing but her dress doesn’t begin to move with her until some frames later.

6. Slow-out & slow-in

The slow-out and slow-in technique consists in drawing more frames near the beginning and the end of an action and fewer in the middle. This way, the parts where there are more frames will look slower and the action itself faster. It will give the character time to accelerate and slow down and make the animation more realistic.

7. Arcs

This technique is based on the natural trajectory i.e. almost every action follows arcs. It can be applied to the human figure and animals or simply to thrown objects. Arcs make animation look more natural and have a better flow. Objects that move out of their natural arc will appear erratic. To prevent that, animators tend to draw the arc on the paper for reference and erase it later.

8. Secondary action

The secondary action is an animation method whose main purpose is to supplement and reinforce the main action of a scene. It is important to remember that it has to emphasize and not take attention away from it. We use secondary action when we are animating a character that is angrily walking around. To add a secondary action would be to make his arms move aggressively or his head bounce just to accentuate his walk and express his emotion to the viewer.

9. Timing

18

Timing is one of the animation techniques people learn with experience and personal

experimentation. It consists in choosing the number of frames or drawings that are going to be used to animate a scene or an action. The number of frames translates to the speed of the action on the film: the less frames and action has, the faster and crisper it will get. If an action has a lot of frames, it will be slow and smooth. Timing adds texture and interest to the movement of your characters. A good way to practice this technique would be studying the acting and movement of actors and performers on stage and use it as reference when animating.

10. Exaggeration

Exaggeration is the effect animators add to their drawings to exaggerate expressions, poses, attitudes and actions of their characters. The level of exaggeration depends on the comical effect the animator is seeking. When exaggerated, animations look more natural than when they are just a perfect imitation of reality. According to Disney animators, exaggerating is remaining true to reality but presenting it in a wilder, more extreme form. However, animators have to use good taste and common sense to keep it from becoming too theatrical and excessively animated.

11. Solid drawing

When talking about solid drawing, animators refer to the application of the basic principles of drawing form, weight and volume solidity to provide the animations with a much more three-dimensional look. To accomplish that, animators have to take art classes and do sketches from real life. The main purpose of this method is to give the animations a realistic look and make them believable.

12. Appeal

The term “appeal” in animation is the same as “charisma” when talking about actors. This method consists in making the characters likeable and capture and involve the audience’s interest. To accomplish that, characters must have an easy to-read design, clear drawing and personality development. Appeal doesn’t apply only to the main protagonist of the film, it also includes villains, sidekicks, etc. Viewers must feel every character of the story is real, interesting and engaging. Like all forms of storytelling, the feature has to appeal to

19

the mind as well as to the eye. To make their characters more “appealing”, animators use symmetry and smooth curves and shapes in their composition. Baby-like faces with big eyes tend to be the viewers’ favourite features; we can find those characteristics in almost every design of the Disney princesses.

**20**

**ANIMATION PRODUCTION PROCESS**

Note: Every studio does not follow these exact same steps. Some studios might have more steps than these or even less steps than these. The following steps are the most fundamental steps which almost every animation studio follows besides their other processes. These steps have been compiled by observing the work done in Toei, Madhouse, Disney, Dreamworks, Ghibli and Pierrot studios.

1. Script :-

1.1 Made with the help of the story writer and the director.

1.2 It's the essence of the movie.

1.3 It is also used as a reference in many other stages of animation production.

1. The production plan

2.1 This step consists of planning everything before starting the production process.

2.2 The following things are planned before starting anything related to animation:-

1. Delivery Date

More the time a studio has, the better the animation quality.

1. Preliminary Schedule

The staff managers create a schedule for the studio's every department, to create a realistic goal. It consists of organizing the number of days, weeks, months or even years that will take to create the movie.

1. Crew Plan

The managers calculate a rough time period each department will take to complete a particular task based on past experiences. They discuss the problems on schedule in the last project and think of a solution and implement it in their new project.

21

1. Budget

The budget is the financial construction of the estimated expenses the production of the movie might cause. Calculating a budget is very important. It allows the studio to know if they are doing anything excessive which might cause loss to the studio or some other disaster which might even lead to bankruptcy.

1. Recruiting

It is the human resources department who takes care of it. The different jobs that are usually included in an animated movie production are storyboard artists, reference animators, sound readers, animation timers, lip sync specialists, voice actors, casting agents, recording director, recording technicians, sound engineers, copyright clearance specialists, overseas supervisors and others.

1. Storyboard

8.1 Storyboard is used to explain the story.

8.2 It shows the main elements of the animation and gives an idea of how the voiceover will match the visual part.

8.3 Includes:-

8.3.1 Drawing

8.3.2 Movements

8.3.3 Panning of the camera

8.3.4 Length of each shot

1. Character designing

9.1 When it comes to designing characters, everyone contributes with their ideas.

9.2 Every animator takes a pencil and a paper and they start sketching different designs of the characters over and over again.

22

9.3 Once the character designs finalized, the color palettes for every character are decided which will be followed throughout the entire coloring and shading process.

1. Layouts of scenery and landscape

10.1 Layouts of scenery and landscapes are first drawn on paper and then are reviewed.

10.2 After finalising, they go to the landscape department.

10.3 Around the year 2001, studios used to make the finalised landscapes by hand painting them. But, now the same process is done digitally.

10.4 Pros of digital over hand painted landscapes:

10.4.1 All the tools are already there.

10.4.2 Final product costs less for the painter since less resources are used.

10.4.3 Cleaner and high quality paintings.

10.4.4 The process is 'generally' faster.

10.5 Although, the process of hand painting landscapes in animation is not lost, it is now only performed when hand painting might be more efficient and faster than digital.

1. Key Animation

11.1 In this, the key animators draw the first frame, middle frame and last frame of a scene in an animation.

11.2 For example, the key animator needs to make a scene of a person kicking a football, then they would need to make the first frame the person is either standing still. In the middle frame, they would draw the person in the middle of kicking a football. And in the last frame, the person had already kicked the football.

11.3 They are more professional than the [in-between] animators.

23

1. In-between Animation

12.1 After the key animation is done for a scene. It will go over to the [in-between] animators who will make sure that the animation in between the key frames is a solid and fluid movement by tracking the three pictures that they were given or more.

12.2 They are more professional than the key animators.

12.3 Usually, in-between animators use a lot of references for their drawing so that they can draw perfect or correct drawings. In-between animators are generally more amateur compared to other staff members of the studio. They are also less expensive for the studios.

Fun fact: A 30 minute animation can have between 3,000 to 5,000 redrawn pictures or frames.

1. Compositing

[This step is followed very differently in different studios.]

13.1 After all animations are done, it goes over to compositing. Compositing is divided into different departments, but primarily, it is the colouring and the shading studio.

13.2 Here all the drawings, which only have lines, are now filled with various colours to give life to the animation.

13.3 A lot of the studios have many different departments in this particular step because this process is very time consuming.

13.4 Each artist in these departments will be given a correct palette of colours to use, to ensure that each character in the animation, keep and maintain their level and quality of colours throughout the entire animation.

13.5 Now sometimes, the characters in the animation might be in a dark place like a cave, then those characters will be given a new palette of colours for darker shades.

24

1. Effects

14.1 The effects department will take the fully drawn and coloured animation and add effects to the animation.

14.2 For example, they would add lighting, glows, shading blurs, smoke effects, glints on swords, sparks. All these effects add the final touching to the animation which makes these animations look so amazing.

14.3 This department also adds various sounds to the animation to make it feel more immersive and beautiful.

1. Post production

This stage mainly revolves around editing. This department makes sure that animated movies are exactly the amount of time the director wants it to be. So sometimes they would have to cut some pieces from the animation.

1. Voiceovers

16.1 Voiceover is probably one of the more fun stages in this entire process.

16.2 Here, the characters in animation are given voice by voice actors.

16.3 A character of some specific age and gender might not necessarily be voiced by a person with the same age or gender.

Fun fact: Sometimes, the male characters of the animation are voiced by female voice actors.

Once all the previous steps are finished, the movie is ready to be shown to the world. The film is either distributed worldwide or depending on country to country. When a movie premieres for the first time, the casting, producer, directors and others go together to watch it in the cinema and see the public’s reaction. If the movie is good enough, it will have good reviews from the critics and experts.

25

**YOUR NAME (2016)**

Your Name ( Kimi no Na wa ) is a 2016 Japanese animated romantic fantasy film produced by CoMix Wave Films and released by Toho. It depicts a high school boy in Tokyo and a high school girl in the Japanese countryside who suddenly and inexplicably begin to swap bodies.

The film was commissioned in 2014, written and directed by Makoto Shinkai. It features the voices of Ryunosuke Kamiki and Mone Kamishiraishi, with animation direction by Masashi Ando, character design by Masayoshi Tanaka, and its orchestral score and soundtrack composed by Radwimps. A light novel of the same name, also written by Shinkai, was published a month prior to the film's premiere.

1. Plot of the Story

Mitsuha Miyamizu is a high school girl living in the rural town of Itomori near Hida. Bored of the town, she wishes to be a Tokyo boy in her next life. She inexplicably begins to switch bodies intermittently with Taki Tachibana, a high school boy in Tokyo, waking up as the other person and having to live through their activities and social interactions for the day. The two initially believe these experiences to be vivid dreams, but eventually realize they can communicate with each other by leaving messages on paper, phones and sometimes on each other's skin. Mitsuha (in Taki's body) sets Taki up on a date with his coworker Miki Okudera, while Taki (in Mitsuha's body) causes Mitsuha to become popular at school. One day, Taki (in Mitsuha's body) accompanies Mitsuha's grandmother Hitoha and her sister Yotsuha to leave the ritual alcohol kuchikamizake, made by the sisters, as an offering at the Shinto shrine located on a mountaintop outside the town. It is believed to represent the body of the village guardian god ruling over human connections and time. Taki reads a note from Mitsuha about the comet Tiamat, expected to pass nearest to Earth on the day of the autumn festival. The next day, Taki wakes up in his body and goes on a date with Miki, who tells him she enjoyed the date but also that she can tell that he is preoccupied with

26

thoughts of someone else. Taki attempts to call Mitsuha on the phone, but cannot reach her and finds the body-switching has ended.

Taki, Miki, and their friend Tsukasa travel to Gifu by train on a trip to Hida, though Taki does not know the name of the town, instead relying on sketches he has made of the surrounding landscape from memory. A restaurant owner in Hida recognizes the town in the sketch as Itomori, being originally from there. He takes Taki and his friends to the ruins of the town, which has been destroyed and where five hundred residents were killed when the comet Tiamat unexpectedly fragmented three years earlier. While gazing over the impact crater in disbelief, Taki observes Mitsuha's messages disappear from his phone and his memories of her begin to gradually fade. Taki finds Mitsuha's name in the record of fatalities, and he wonders if the body-switching was just a dream. While Miki and Tsukasa return to Tokyo, Taki journeys to the shrine, hoping to reconnect with Mitsuha and warn her about the comet. In the shrine, Taki drinks Mitsuha's kuchikamizake then lapses into a vision, where he glimpses Mitsuha's past. He also recalls that he had already encountered Mitsuha on a train three years earlier when she came to Tokyo in her own timeframe to find him, though Taki did not recognize her as the body-switching was yet to occur in his time frame. Before leaving the train in embarrassment, Mitsuha had handed him her hair ribbon, which he has since worn on his wrist as a good-luck charm.

Taki wakes up in Mitsuha's body at her house on the morning of the festival. Hitoha deduces what has happened and tells him the body-switching ability has passed down in her family as caretakers of the shrine. Taki convinces Tessie and Sayaka, two of Mitsuha's friends, to get the townspeople to evacuate Itomori, by disabling the electrical substation and broadcasting a false emergency alert. Taki heads to the shrine, realizing that Mitsuha must be in his body there, while Mitsuha wakes up in Taki's body. At the mountaintop during sunset, the two sense each other's presence, but are separated due to contrasting timeframes and cannot see each other. When twilight falls (referred to in the film as "magic hour" or kataware-doki), they return to their own bodies and see each other in person. After Taki returns Mitsuha's ribbon, they attempt to write their names on each other's palm so that they will remember each other. Before Mitsuha can write hers, however, twilight passes and they revert to their respective timeframes. When the evacuation plan fails, Mitsuha has to convince her father Toshiki, the mayor of Itomori, to evacuate everyone. Before doing so, Mitsuha notices her memories of Taki are fading away and discovers he

27

wrote "I love you" on her hand instead of his own name. The comet's fragments crash to Earth and destroy Itomori. Taki wakes up in his own timeframe remembering nothing.

Five years later, Taki has graduated from university and searches for a job. He senses that he lost something important that he cannot identify, and feels inexplicable interest in the events surrounding the comet, now eight years past. The town of Itomori had been destroyed; however, all of its people survived as they had evacuated just in time. Meanwhile, Mitsuha has since moved to Tokyo. Sometime later, Taki and Mitsuha glimpse each other when their respective trains pass each other, and they are instantly drawn to seek one another. Each disembarks and races to find the other, finally meeting at the stairs of Suga Shrine [ja]. Taki calls out to Mitsuha, saying that he feels that he knows her, and she responds likewise. Having found what each had long searched for, they shed tears of happiness and simultaneously ask each other for their name.

1. Production of the film

The idea for this story came to Shinkai after he visited Yuriage, Natori, Miyagi Prefecture in July 2011, after the Great East Japan Earthquake occurred. He said, "This could have been my town." He said that he wanted to make a movie in which the positions of the people in Yuriage would be swapped with the viewers. The sketches that Shinkai drew during this visit have been shown in exhibitions.

In Makoto Shinkai's proposal sent to Toho on September 14, 2014, the film was originally titled Yume to Shiriseba (If I Knew It was a Dream), derived from a passage in a waka, or "Japanese poem", attributed to Ono no Komachi.[14] Its title was later changed to Kimi no Musubime (Your Connection) and Kimi wa Kono Sekai no Hanbun ( You Are Half of This World) before becoming Kimi no Na Wa. On December 31, 2014, Shinkai announced that he had been spending his days writing storyboard for this film.

1. Message/Theme:

The main theme of the movie is love. The movie begins with two people searching for each other, unaware that they are missing one another.The supernatural element is an important aspect of the movie. It is explored through tradition and religious beliefs. It turns out that Taki and Mitsuha found each other for a reason beyond themselves.

The theme of time is explored in the movie in connection to religion regarding the idea of time. Time is compared to "musubi", to knotting of threads that twist and untangle and are

28

connected again. Taki and Mitsuha untangle the knot of time, twist it to change the events that happened, following the comet-disaster on Itamari. They connect the thread of time to enable the flow of life again, and give each other the possibility to meet again in the future.

1. Achievements

Your Name premiered at the 2016 Anime Expo in Los Angeles on July 3, 2016, and was theatrically released in Japan on August 26, 2016, and in the United States on April 7, 2017. It received generally favorable reviews, with praise for the animation, music, and emotional weight. The film grossed over US$380.15 million worldwide.

The film won Best Animated Feature Film at 49th Sitges Film Festival, the 2016 Los Angeles Film Critics Association Awards, and the 71st Mainichi Film Awards, and was nominated for Best Animation of the Year at the 40th Japan Academy Prize. A live-action remake by Paramount Pictures set in the United States is currently in development.

The mega hit anime movie Kimi no Na wa, directed by Makoto Shinkai, has so far generated a box-office revenue of 10 billion yen. This extraordinary feat has been achieved in just 28 days since the first day of its release (August 26). We haven’t seen such numbers in the Japanese animation category since The Wind Rises by Hayao Miyazaki.

Makoto Shinkai is an animation director whose debut was the self-produced animated short film, Voices of a Distant Star. The movie has won a lot of awards including the New Century Tokyo International Anime Fair 21 ‘Public Outstanding Performance Award’.

Shinkai has also won numerous prizes including the ‘Animation Film Award’ with The Place Promised in Our Early Days at 59th Mainichi Film Competition, Best Anime Award with 5 Centimeters per Second at Asia Pacific Film Festival and Lancia Platinum Grand Prize at Future Film Festival in Italy.

29

**THE LION KING (1994)**

This movie is worth talking about in this report because it gives us a glimpse on what the animation field before the year 2000 in its peak looked like.

It was accepted by a huge population of viewers as the revenue it earned during its time was extraordinary.

The Lion King movie later had many adaptations and derived works like Timon and Pumbaa, The Lion Guard, a 3D re-release in 2011 and a photorealistic remake in 2019, which also became the highest-grossing animated film at the time of its release.

Opened the gates for new animation films after the year 2000 which were made using better equipment and gadgets.

* + - 1. Plot of the Story

The Lion King is a 1994 board book adaptation of the movie of the same name produced by Disney Animation. Written by Don Ferguson, it is a narrated and illustrated retelling of the coming of age of Simba, a young lion, as he overcomes the death of his father and ousting from his pride which rules the Pride Land, a kingdom of animals in Africa. Simba ultimately regains his rightful place as king of the pride, and in doing so, restores the kingdom’s natural order, referred to in the animals’ shared vocabulary as the “circle of life.”

The story begins in the Pride Lands, an area in Kenya, Africa ruled by a pride of lions. Its

30

leader, King Mufasa, who rules benevolently from his home, Pride Rock, attends the

presentation of his newborn son, Simba, to the assembly of animals that make up the kingdom. His advisor and shaman, a baboon named Rafiki, hoists young Simba into the air atop a rocky pinnacle, and the animals cheer. Mufasa waves his hand across the land, explaining that Simba will be responsible for it once he becomes king. He also explains the “circle of life,” the sacred relationship between birth and death that connects all living creatures.

As Simba comes of age, Mufasa’s younger brother, Scar, seeks to usurp the throne. Scar plans to kill Mufasa and Simba. He lures Simba and his best friend and future wife and queen of the pride, the young lioness Nala, to explore a dangerous elephant graveyard. There, a trio of spotted hyenas loyal to Scar ambushes them. Mufasa, learning about the ambush from his messenger hornbill Zazu, rushes to rescue the cubs. Though Mufasa is angry with Simba, he forgives him, taking him to a field and explaining that the kings of the past watch from the stars, just as he will one day watch over the prides of Africa.

After his failed attempt to kill Simba, Scar lures him and Mufasa into a ravine where his hyenas cause a stampede of wildebeest, hoping to have them trampled. Scar lures Simba first and then notifies Mufasa of Simba’s danger. Mufasa rushes to save Simba again but is left hanging on the edge of the ravine. Scar approaches and, instead of saving him, throws him into the ravine, where he dies. Scar convinces Simba that Mufasa’s death was his own fault, telling him to leave the kingdom. After Simba flees with the hyenas in pursuit, Scar tells the rest of the pride that the wildebeest killed both Mufasa and his son, Simba. He becomes the new king, allowing his previously excommunicated hyenas and their pack to come live in the Pride Lands.

Simba, exhausted in the desert, is rescued by a meerkat and a warthog, Timon and Pumbaa. He grows up with them in the jungle, learning to create a carefree life and adopting a new motto, “Hakuna Matata,” meaning “no worries.” One day, a hungry lioness comes to hunt Timon and Pumbaa. Simba intercepts her, discovering that she is Nala. They fall back in love and Nala tells him to come home, conveying that the Pride Lands have fallen into drought and despair. Simba refuses and runs away, unwilling to cope with returning to the site of his father’s death. He finds Rafiki, who says that Mufasa is still alive in Simba. Mufasa’s spirit appears in the stars, telling Simba that he must live on as king. Simba is convinced to return home.

31

Simba covertly returns to Pride Rock, confronting Scar. Scar tries to exploit Simba’s

insecurity about his role in Mufasa’s death, backing him to the edge of Pride Rock. There,he reveals that he killed Mufasa. Overcome with anger, Simba throws himself onto Scar, pinning him down. He forces Scar to announce the truth to the pride. His friends Timon and Pumbaa, along with Rafiki, Zazu, and the lionesses, fight off the hyenas while Scar tries to escape. Simba corners him, and Scar begs for mercy, offering to betray his hyenas. Simba agrees on the condition that Scar is banished from the Pride Lands. Scar tries to attack again, and Simba throws him from the rock. He survives the fall but is killed by the hyenas who overheard his betrayal. Rain begins to fall as Simba regains the kingship, and life comes back to the Pride Lands. The movie concludes as Rafiki holds up Simba and Nala’s new cub to the assembly of animals, repeating the circle of life.

* + - 1. Production of the film

Development of The Lion King began in 1988 during a meeting between Jeffrey Katzenberg, Roy E. Disney, and Peter Schneider while promoting Oliver & Company in Europe. Thomas M. Disch wrote a film treatment, and Woolverton developed the first scripts, while George Scribner was signed on as director, being later joined by Allers. Production began in 1991 concurrently with Pocahontas, which wound up attracting many of Disney's top animators. Sometime after the staff traveled to Hell's Gate National Park in Kenya to research the film's setting and animals, Scribner left production, disagreeing with the decision to turn the film into a musical, and was replaced by Minkoff. When Hahn joined the project, he was dissatisfied with the script and the story was promptly rewritten. Nearly 20 minutes of animation sequences were produced at the Disney-MGM Studios theme park in Florida. Computer animation was also used in several scenes, most notably in the wildebeest stampede sequence.

* + - 1. Theme of the story

The Lion King sends important messages regarding friendship, love, and hope. Simba makes amazing relationships throughout his journey that help guide him to be the lion he eventually grows up to be and secure the bravery and strength he needs when facing his evil uncle. The Lion King warns its viewers about the blinding effects of power and those who will do anything to be in control. Life is not always fair and does always go as planned, but some things are just beyond the control of one individual. As Timon and Pumba famously sang to Simba, Hakuna Matata, no worries.

32

A classic coming of age story, The Lion King incorporates the symbolism of the animal kingdom and its natural hierarchical structure to present the struggle of its protagonist as a return to his inherited home, family, and throne.

* + - 1. Achievements

The Lion King was released on June 15, 1994, to overwhelming critical acclaim from critics, who applauded the film for its music, story, themes, and animation. With an initial worldwide gross of $763 million, it finished its theatrical run as the highest-grossing film of 1994 and the highest-grossing animated film. It is also the highest-grossing traditionally animated film of all time, as well as the best-selling film on home video, having sold over 30 million VHS tapes. The Lion King garnered two Academy Awards for its achievement in music and the Golden Globe Award for Best Motion Picture – Musical or Comedy. In 2016, the film was selected for preservation in the United States National Film Registry by the Library of Congress as being "culturally, historically, or aesthetically significant".

33

**REFERENCES**

1. <https://www.creativebloq.com/advice/understand-the-12-principles-of-animation>

2. <http://www.wright.edu/~david.wilson/eng3000/samplereport.pdf>

3.<http://www.loyolacollege.edu/e-document/viscom/Prof.Philip/2d%20traditional%20animation.pdf>

4.  [https://stonesoup.com](https://stonesoup.com/)

5. Animation to teach students of different knowledge levels by Lih Juan Chan Lin

6. Computer animation : algorithms and techniques by Rick Parent

7. <https://xplai.com/blog/step-by-step-guide-to-the-animation-production-process/>

8. <https://www.youtube.com/watch?v=3Imovk-s40I>

9. https://en.wikipedia.org/wiki/The\_Lion\_King

10. https://www.supersummary.com/lion-king/summary/

11. <https://sites.psu.edu/realdisney/2018/04/13/the-lion-king/>

34

**CONCLUSION**

**Animation** is important to understand because it makes us be able to tell stories and communicate emotions and ideas in a unique, easy-to-perceive way that both small children and adults can understand. **Animation** has helped connect people throughout the world in a way that sometimes writing and live-action films cannot. Characters may defy the laws of gravity, and unexpected plot twists and activities can show up without creating dismay for the viewers. This ability to break the rules allows **animation** to be **uniquely** fascinating. **Animation** can personify inanimate objects.

**35**