BCA (DES)301- 3rd YEAR

ANIMATION PRODUCTION PROCESS

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Open University

Block 1

BCA(DES)-301

Animation Production Process

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ROLE OF SELF INSTRUCTIONAL MATERIAL INDISTANCELEARNING

The need to plan effective instruction is imperative for a

Successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual

Involvement and contain all the necessary learning instructional activities ties that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect,

Students 'assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make

use of students' prior knowledge and experiences in the discourse as the

foundation on which newly acquired knowledge isbuilt.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices pros vided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive

Communication clues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to r e d u c e
This. Divide and to bring this Self Instructional Material as the b e s t
teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts.

Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline.

These could be in the form of students 'assignments, a research project

or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you Expect.

All the best for your studies from our team!

All the best for your studies from our team!

UNIT 1, 2 PRINCIPLES ANIMATION I, II

Learning Objectives:

- Principles of Animation

- Understanding of Balance, weight & Emphasis

- Usage and understanding of Arcs and Secondary Motions

- Understanding of Solid Drawings and Exaggeration

- Understanding of Animation Process principles

- Rules of Animating a drawing

Structure

1.1 Introduction

1.2 The Illusion of Life

1.3 The 12 Principles

1.1 Introduction

2D animation allows you to create images, characters, and animals that are two dimensional. You can use cell animation, which is more traditional, but these days companies are coming up with a number of animation software.

1.2 The Illusion of Life

Animation is defined as the act of giving life. But in practicality we cannot give life to any object so the term 'illusion of life' was coined by the Disney animator Hamilton Luske in the 1930s. For Disney studio's then upcoming feature film Snow White and seven dwarfs, there was a need for greater realism in the animation. The animators at the Disney studio had done a thorough study of movement, the human body and artistic drawing and phrased a set of principles that would make their drawings appear more life-like. Disney studio had always tried for a style that was exaggerated, yet rooted in reality. In Walt Disney's own words: "Our work must have a foundation of fact in order to have sincerity. The most hilarious comedy is always based on things actual".

The chief animators at the Disney studios were referred to as the 'Nine Old Men' though all of them were young. Two of the 'Nine Old Men', Ollie Johnston and Frank Thomas, who had worked on such animated feature films as Snow White, Cinderella and Peter Pan, after their retirement they wrote the book The Illusion of Life. They had spent nearly five years in research and writing this book and the first edition of the book was published in 1981. This book represented their experience of over 40 years in the field of animation.

The book 'Illusion of life' has been described as the 'Bible' of the animation industry. This book has been listed among the five books that "Every student of art animation should read and own". Animator's Survival Kit by Richard Williams is another among those five. In a 1999 poll on the website Animation World Network, it topped the list of the "best animation books of all time". The heart of the book is the set of 'twelve basic principles' of animation. Most experts in the field of animation agree that these twelve principles, when applied correctly, are

comprehensive to producing an 'illusion of life'. The extensive use of computer in animation has done nothing to eliminate the relevance of the 12 basic principles of animation. The book contains 18 Chapters, in which different aspects of animation are explained like principles of animation, procedures followed by Disney studio, Sounds, Follow up, Story, Character Development etc.

1.3 The 12 Principles Of Animation

THE 12 BASIC PRINCIPLES OF ANIMATION rephrased from the book "Illusion Of Life" by Frank Thomas & Ollie Johnston.

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. Arcs

8. Secondary Action

9. Timing

10. Exaggeration

11. Solid Drawing

12. Appeal

1.3.1 Squash and Stretch

If we move a fixed shape on paper from here to there, it appears rigid. In real life, living creature, when move, doesn't appear rigid. Squash and Stretch when implemented properly gives the illusion of weight and volume to a character as it moves. Squash and stretch is also useful in animating facial expressions of the character. The use of squash and stretch depends on what is required in animating

the scene. It is used in all forms of character animation like the body weight of a person walking. This is the most important principle that you require to master.

1.3.2 Anticipation

In animation sometimes, audience may not understand the events on the screen unless there is a sequence of actions that lead them from one activity to next. This can be achieved by Anticipation. Anticipation prepares the audience for an action the character is about to perform, such as, starting to run, jump etc. For example a backwards motion occurs before the forward action is executed. The backward motion is the anticipation. A comic effect can be achieved by not doing the anticipated action after using anticipation action. Almost all real action has major or minor anticipation such as a pitcher's wind-up or a golfers' back swing.

1.3.3 Staging

An action in animation should clearly communicate to the audience the attitude, mood, reaction or idea of the character. Staging is the presentation of an idea in such a way that it is completely clear to the audience. The effective use of camera angles helps in telling the story. Use of an action should clearly state the idea. Staging directs the audience's attention to the story or idea being told. Backgrounds should be designed carefully so that it doesn't obscuring the animation or competing with the animation. Background and animation should work together as a pictorial unit in a scene.

1.3.4 Straight Ahead And Pose to Pose Animation

The animation can be done in two ways. One of them is Straight ahead animation; it starts with the first drawing in the scene and work on drawing to drawing, getting new ideas, to the end of a scene. This method has spontaneity and freshness. Fast, wild action scenes are done this way. The other way is Pose to Pose animation. This is more planned way of making animation. It is charted with key drawings. Size, volumes, action and proportions are controlled better this way. The animator passes the charting as well as the key drawings over to the assistants for in-betweening. An assistant can be used in this method. An animator

can work on more scenes this way and concentrate on the planning of the animation. Many a times animators use a bit of both methods of animation.

1.3.5 Follow Through And Overlapping Action

In the initial days of the animation, when a character used to stop in a scene suddenly, the character used to look very stiff and rigid. So the animators at the Disney studio worked upon it and found several ways to overcome the problem, they called it "Follow Through" or "Overlapping Action". Follow Through can be explained as even if the character stops some parts or appendages continue to catch up to the main mass of the character, such as long hair, clothing, floppy ears or a long tail. Whereas, when the character changes direction while his clothes or hair continues forward or the character is going in a new direction, to be followed, a number of frames later, by his clothes in the new direction is called as Overlapping Action. The term "DRAG" in animation would be when a character starts to run, but his head, ears or clothes do not keep up with his body. Long hair and animal tail will also be handled in the same manner. Timing becomes critical to the effectiveness of this principal.

1.3.6 Slow-out And Slow-In

More drawings are drawn near the starting pose and near the next pose and very few may be two or three are drawn in between. More drawings or frames make the action slower where as fewer drawings or frames make the action faster. So, generally the animations are started with a Slow in and ends with a Slow-out. Slow-ins and slow-outs soften the action, making it appear more life-like.

1.3.7 Arcs

Almost all living creature except for some insects, make movement in a slightly circular path or an arc. This is especially true of the human beings and the animals because our bones are hinged with each other. Arcs give animation a more natural action and better flow whereas drawings made as straight inbetweens completely kill the essence of the action.

1.3.8 Secondary Action

Secondary actions are the subsidiary actions which fortify the main action in a scene. This enriches the main action and adds more dimension to the character animation, supplementing and re-enforcing the main action. Example: A sad character whipping a tear from his face while turning away. All of these actions should work together in support of each other and they should not be emphasized more than the main action for example if there is some expression on the face of the sad character then whipping of the tear should be planned carefully to support that look. You can consider the walk as the primary action and arm swings, head bounce and all other actions of the body as secondary or supporting action.

1.3.9 Timing

Timing is one of the most important and crucial part of the animation. The timing can be considered as the time (number of frames) between two extremes or it can be the coordination between follow through or secondary action and the main action. Expertise in timing comes best with experience and personal experimentation. The number of drawings between two drawings can change the whole essence of the scene. For example if we consider two drawings, in first the head is in right and in second the head is in left then different meanings can be given to the action. Like no or one in between show that the character is hit by a tremendous force, with three drawings it can be shown as dogging something, etc. A variety of slow and fast timing within a scene adds texture and interest to the movement. There is timing in the acting, also, of a character to establish mood, emotion, and reaction. In some animations, one same drawing is used for two frames that reduce the burden of the animator and in 24 frames per seconds the audience can judge it, these are called as twos and the animations where one drawing is used only for one frame are called as ones. It depends upon the type of action as well as the choice of the animator to choose between the two.

1.3.10 Exaggeration

Exaggeration, in animation language, is not distortion of a drawing or violent action. It¹s like exaggerating the actions like if a character has to be shown sad then exaggeration would be showing him sadder, if a character is happy then show him more happy and if he is wild than show him wilder. Exaggeration in a walk or an eye movement or even a head turn can give more appeal. Exaggeration is a caricature of realism; it's like making the figure look more convincing to the audience. Dave Hand, one of the Nine old man of Disney studio, when used to direct the fellow animators, he used to say," Will you do something for me? Will you make it so extreme that you make me mad?"

1.3.11 Solid Drawing

Solid Drawing in the terms of Disney Studio is the drawings with weight, depth and balance. The basic principles of drawing form, weight, volume solidity and the illusion of three dimensions apply to animation also. You transform these drawings with color and movement giving the characters the illusion of three- and four-dimensional life. Three dimensional is movement in space. The fourth dimension is movement in time.

1.3.12 Appeal

Appeal is a very important aspect of drawing. Appeal can be described as anything that the audience likes to see like simplicity, charm, magnetism etc. A drawing which is complicated lacks appeal. Appealing animation does not mean just being cute and cuddly. All characters have appeal whether they are heroic, villainous, comic or cute otherwise audience won't enjoy watching them. Appeal includes an easy to read design, clear drawing, and personality development that will capture and involve the audience¹s interest. Like all forms of storytelling, the feature has to appeal to the mind as well as to the eye of the spectator.

Summary

Please note that the Principles of Animation address only universally usable 2d animation, while the practice of animation involves more than consideration for usability. Designers must also incorporate other considerations such as economic, engineering, cultural, gender, and environmental concerns in their animation processes. These Principles offer animators guidance to better integrate features that meet the needs of as many users as possible.

Self Assessment Test

Broad Questions –

1. Write down all principles of Animation
2. Explain each in one line
3. Give one example of each

Further Reading

http://en.wikipedia.org/wiki/Universal_design

http://home.earthlink.net/~jlminc/tools_principles.html

https://www.washington.edu/doit/Brochures/Academics/instruction.html

http://www.rollingrains.com/archives/001011.html

http://www.uigarden.net/english/the-principles-of-universal-design

http://www.universaldesign.org/universaldesign3.htm

Illusion of Life by Frank Thomas & Ollie Johnston

Animator's Survival Kit by Richard Williams

Assignment

Read the principles of animation and implement these principals in

your animation:

UNIT 3, 4 ANIMATION TECHNIQUES I, II

Learning Objectives:

• Understanding Animation Techniques

Structure

3.1 Introduction

3.2 Traditional Animation Technique

3.3 Stop Motion

3.4 Computer Animation

3.5 Other Animation Techniques

3.1 Introduction

To be a professional animator, one should remember the basic mantra of the animation "an animator is an actor with a pencil." The concept is not as simple as it sounds; an actor has a goal to represent/live the character in front of the audience whereas the animator has to represent the same using a different medium. An animated character act the way the animator feels and visualize it.

3.3 Traditional Animation Techniques

Storyboards

Just like any other form of animation, Traditional Animation also starts with storyboarding, in which the story is told using pictures and words, similar to a comic strip. The image with some information allows the animation team to plan the flow of the scenes and the composition of the final animation. The storyboard artists have regular meetings with the director, and may have to redraw or "re-board" a sequence many times before it meets final approval.

Voice recording

Before the true process of animation begins, a preliminary or rough track is recorded, so that the animation can be precisely synchronized to the recorded soundtrack. It is easier to synchronize animation to a pre-existing soundtrack than synchronizing a soundtrack to pre-existing animation. The rough or a scratch sound track used during animation typically contains just the voices or any vocal songs that the character sings along, and temporary musical score tracks; the final music score, voices and sound effects are added in post-production.

Animatics

An animatic is created out of the story board and rough sketches after the soundtrack are recorded, this is done before the actual animation. An animatic typically consists of pictures of the storyboard or the rough sketches of the characters even without colour or background synchronized with the scratch

soundtrack in the form a video. This allows the directors as well as the animators to work out any timing or flow or script issues that may exist within the current storyboard. The storyboard and/or the scratch soundtrack are amended if necessary, and a new animatic is created and reviewed with the director until the storyboard is perfected. Previewing and editing the animation at the animatic stage prevents bigger changes at the later stages of the animation, if animatic is not created and reviewed then there can be scenes in the final animation that would be altered later or edited out of the film in the post production; as animation is a very expensive and time-consuming process, creating scenes that will eventually be altered later or edited out of the completed film is strictly avoided.

Design and timing

Once the animatic has been approved, the storyboard and the animatic are sent to the art and design department. There character designers prepare model sheets for all characters and props in the animation. These model sheets show how a character or props looks from several angles like front, top, side, profile, back etc with various poses and all possible expressions (face as well as body) of that character, so that all artists working on the project can deliver consistent work. Sometimes, small statues known as maquettes are also produced, so that an animator can see what a character looks like in three dimensions. At the same time, the background stylists (the one who designs the backgrounds for the animation) will do similar work for the locations/back drops in the project, and the art director and color stylists will determine the art style and color schemes to be used for different objects in the animation.

While design is going on, the timing director (who in many cases will be the main director) takes the animatic and analyzes exactly what poses, drawings, and lip movements will be needed on what frames. An exposure sheet (or *X-sheet* for short) is created; this is a printed table that breaks down the action, dialogue, and sound frame-by-frame as a guide for the animators.

Layout

After the completion and approval of the character, props and background designs, layout process begins. The layout process in animation is same as in the regular film which is blocking out of shots by a cinematographer. It is in layout process that the background layout artists determine the camera angles, camera paths, lighting, and shading of the scene and the character layout artists determine the major poses for the characters in the scene.

The layout drawings are spliced into the animatic, using the X-sheet as a guide. Once the animatic is made up of all layout drawings, it is called a Leica reel.

Animation

In the traditional animation process which is also known as cell animation, an animator starts drawing figures on sheets of paper perforated to fit the peg bars in their light board desks, often using pencils, one "frame" or cell at a time. A lead animator draws the key drawings in a scene, using the layouts as a guide. The key animator draws enough of the key frames to get across the major points of the action.

Timing is an important factor for the animators drawing these frames; each frame must match exactly with the scratch soundtrack or else the discrepancy between sound and visual will distract the audience.

A key animator prepares a pencil test of the scene while working on it. It is a preliminary version of the final scene; these are then either photographed or scanned and synced with the necessary soundtracks. This allows the animation to be reviewed and improved upon before passing the work on to assistants, who add details and in between frames in the scene. The work of the assistant animators is reviewed and corrected until the lead animator is ready to meet with the director, producer, and other key creative team members. Similar to the storyboarding stage, an animator may be required to re-do a scene many times before the director will approve it.

Once the key frames for the animation are approved, the lead animator forwards the scene to the clean-up animators and the inbetweeners. The job of the clean-up artist is to trace the key frames onto a new sheet of paper. The inbetweeners draw frames which are still missing in between the key frames. This procedure is called tweening. The resulting drawings are again tested with the soundtrack until they are approved.

Backgrounds

The background artists paint the sets, while animators are working the rest of the animation, over which the action of each animated sequence will take place. The backgrounds for traditional animation are generally done in gouache or acrylic paint, although in some animations backgrounds done in watercolor, oil paint, or even crayon are used. Background artists follow the work of the background layout artists and color stylists, so that the resulting backgrounds are harmonious in tone with the character designs.

Traditional ink-and-paint and camera

Once the clean-ups and in between drawings are approved, they are prepared for a process known as *ink-and-paint.* In this process each drawing is transferred from paper to a thin transparent sheet called a cel, Cel sheets were once made out of cellulose nitrate but now cellulose acetate is used. The drawings are traced on these cels, the outline is inked and gouache or a similar type of paint is used on the reverse sides of the cels to add colors in the appropriate shades. The transparent quality of the cel allows for each character or object in a frame to be animated on different layers of cels and the opaque background will be seen beneath all of the cels.

When the entire sequence has been transferred to cels, the photography process begins. Each layer of cel in a frame is laid on top of each other, with the background at the bottom, a piece of glass is placed onto the set of layers in order to flatten any irregularities and the composite frame is then photographed by a special animation camera, also called rostrum camera or stop motion camera. The same process repeats for the rest of the frame until each frame in the sequence has

been photographed. Some frames are photographed more than once, in order to implement superimpositions and/or other camera effects.

Once every sequence in the animation has been photographed then the final music and sound effects are added to the soundtrack and the final film is sent for development and processing.

Digital ink and paint processes (computer based) gradually made the traditional ink and paint and other processes (which were followed by ink and paint) and equipment obsolete.

Digital ink and paint

The term "digital ink and paint" is same as traditional ink and paint, the major difference in these is that after drawing the animation is being transferred to computer instead of cels, where they are coloured and processed using some software package. The resulting frames are composited in the computer over their respective backgrounds and the computer outputs the final animation either on a video tape or film.

Computers and digital video cameras

Computers and digital video cameras can be used as tools in traditional animation. These tools can help the animators in making the whole process simpler, faster and easier. For example, if the layouts are created on a computer, it can be much more effective than creating it by traditional methods. Digital video cameras can help animators to see a preview of the scenes and thus enable the animators to correct and improve them. This can be considered a digital form of pencil testing.

Techniques

The cel & limited animation

The cel (layers of transparent celluloid) is an important innovation to traditional animation, as it allows some parts of each frame to be repeated from frame to frame, thus saving lots of time and labor. An example would be a sequence where

two characters are on screen, one of which is talking and the other one listening
silently. Since the character who is listening, is not moving, it can be displayed in
this scene using only one drawing, on a single cel, while multiple drawings on
multiple cels will be used to animate the speaking character.

"Shooting on twos"

Most of the times movement of characters is shot on "twos". The image update
rate is low in this process but the fluidity is satisfactory for most of the cases.
However, if a character has to perform a quick action, it is necessary to revert
back to animating on "ones", as "twos" are too slow to convey the motion
adequately. A blend of these two techniques keeps the eyes of the audience
fooled without unnecessary production cost.

Animation loops

There are lots of actions which are repetitive in nature, for this kind of
animations 'animation loops' or 'animation cycles' are created, which is a labor-
saving technique, such as walking or a breeze blowing. In the case of walking,
the character is animated taking a right step and then a left step then loop is
created so that, when the sequence repeats, the motion is seamless.

Multiplane camera

The multiplane camera is a tool which is used to add depth to a scene in a
traditional animation movie, called the multiplane effect or the parallax effect.
The cels are placed on different layers of glasses; in this way an illusion of depth
is created forming realistic backgrounds and foregrounds.

Ink & Paint

The process of filling colour in the cels is called as Ink and Paint. The outlines of
the characters are called as ink and the colour filled between the outlinesis called as
paint. Traditionally cels were "inked" by hand. The artists who do ink job are
known as "inkers", they place blank cels over the animation drawings and trace the
outlines of the artwork onto the cels, using different colors for different ink

lines. The paint artist fills the reverse side with the gouache or a similar type of paint.

Xerography

Xerography allowed the drawings to be copied directly from the paper onto the cels, leaving only the coloring to the inkers. This process saved a lot of time and money, and it also made it possible to control the size of the Xeroxed objects and characters (Enlargement or Reduction).

Cel overlay

Cel overlay technique is also used for creating illusion of depth. This is achieved through a cel with inanimate objects which is used to give the impression of a foreground when laid on top of a frame. A special version of cel overlay in which the same effect is made to complete the background instead of the foreground, called line overlay, and this is used to deal with the sketchy appearance of Xeroxed drawings. As the xerography process evolved, line overlay process became obsolete.

The APT process

Animation Photo Transfer process is another better way to transfer the paper drawings onto cels. APT generates looks visually better than Xerography. The APT process is a modification of a repro-photographic process.

Computers and traditional animation

The computers has drastically changed and improved the way traditional animation is done. The techniques of an animation process that originally depends on cels are rare today as the computer are used for the same purpose, the paper drawings are now scanned directly into the computer and filled with digital ink and paint. Then these coloured drawings are composited in a computer program more or less the same way as they are with cels and then can be transferred onto film or converted into a digital video format. Animators can also draw directly into a computer using a graphics tablet or a similar device.

All though these days traditional animation is commonly done with aid of computers but it should not be confused with 3D computer animation.

Rotoscoping

Rotoscoping is a process of traditional animation invented by Max Fleischer in 1915, in which animation is "traced" over actual film footage. Traditionally, the live action is printed out frame by frame on paper. Another piece of paper is then placed over these printouts and then the action is traced using a lightbox. The animation still looks like hand drawn but the motion is remarkably lifelike.

Live-action hybrids

Sometime production studios also mix live-action and animated action. The live-action parts are filmed first. In the live action footage, the actors pretend that they are interacting with animated characters, props, or scenery; then using rotoscoping animation is added into the footage to make it appear as if it is a part or the live footage. This method is rarely used. Space Jam released in 1996 is one such hybrid starring famous basketball player Michael Jordan and Bugs Bunny along with the rest of Looney Tunes.

Special effects animation

Besides traditional animated characters, objects and backgrounds, many other techniques are used to create special elements such as smoke, lightning and "magic", and to give the animation in general a distinct visual appearance.

3.3 Stop Motion

Stop motion also known as stop-action or frame-by-frame is an animation technique to make a physically manipulated character or object appear to move on its own. The character or object is moved in small increments between individually photographed frames, when the series of these photographed frames is played, it creates the illusion of movement. Stop Motion is used majorly with Clay animation where Clay figures are animated.

3.4 Computer Animation

Classically the animation has been either created by drawing a succession of cartoon frames or by using physical models which are positioned, photographed and then repositioned and the process is continued.

Computer animation can be produced by using a rendering machine which can be either hardware based or software based, to produce frames where some aspect of the image is varied. Complex computer animation can move the objects in more interesting ways, e.g. along curved paths, and can even use the laws of Physics to determine the behavior of objects e.g collision of two objects.

A major part of animation is motion control. The most of the animators in the old days were computer engineers/scientists rather than artists, so they developed some scripting systems to control the animation. With the formation of more High Level Languages, the scripting systems also improved and some of them were converted into full software. As the computation capabilities of the computer increased more and more complex animations were done using the computers.

3.5 Other Animation Techniques

Drawn on film animation: A technique where footage is produced by creating the images directly on film stock

Paint-on-glass animation: A technique for making animated films by manipulating slow drying oil paints on sheets of glass.

Pinscreen animation: This animation technique makes use of a screen filled with movable pins, which can be moved in or out by pressing an object onto the screen. Then this screen is lit from the side so that the pins cast shadows.

Sand animation: In sand animation technique, sand is used to create different shapes on a back lit or front lit piece of glass and then it is moved around to create frame for animation. This creates an interesting effect when animated because of the light contrast.

Flip book: A flip book is a set of pictures that vary, like drawings of animation, from one page to the next and when these pages are turned rapidly, creates illusion of motion. Flip books are not always separate books, but these images may appear in the page corners of books and magazines.

Summary

Traditional animation in older days was created on paper, and then they were transferred on the transparent cels so that the animation can be divided onto layers and some cels can be repeatedly used in different animations. The colours were filled with hand using ink and paint technique. Different techniques and technologies were developed to ease the various steps of the animation like Xerography, Cel overlay, APT process, rotoscoping etc. with improvement in the computational speed of the computers; slowly computer replaced different processes and technologies of the traditional animations.

Self Assessment Test

Broad Questions –

1. What is Stop Motion?
2. Give all the traditional animation techniques, only name them?
3. Explain any one?
4. What is computer animation?
5. Name all the other animation techniques?

Further Reading

- Richard Williams - The Animator's Survival Kit
- The Encyclopedia Of Animation Techniques
- The Animation Book: A Complete Guide To Animated Filmmaking-from Flip-books To Sound Cartoons To 3- D Animation
- All About Techniques In Drawing For Animation Production(Series - All About Techniques Series)

Assignment

Create a Clip Book. Topic can be of your choice.

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ANIMATION PRODUCTION PROCESS

Block 2

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Animation Production Process

ROLE OF SELF INSTRUCTIONAL MATERIAL INDISTANCELEARNING

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The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual- skills objectives may be met by designing instructions that make

use of students' prior knowledge and experiences in the discourse as the

foundation on which newly acquired knowledge isbuilt.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices pros vided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive

Communication clues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to r e d u c e
This. Divide and to bring this Self Instructional Material as the b e s t
teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts.

Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline.

These could be in the form of students 'assignments, a research project

or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this

context, help to motivate students, guide and measure students' performance

(continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you Expect.

All the best for your studies from our team!

All the best for your studies from our team!

UNIT 5 ANIMATION PRODUCTION PROCESS

Learning Objectives:

- Understanding the animation production process

Structure

5.1 Introduction

5.2 Traditional Animation Process

5.3 Techniques

5.1 Introduction

In the days prior to computers, animation was created using a series of images drawn on paper by hand known as cel animation. Many people think that traditional animation processes was a time consuming process but the reality is that even the computer animation is as involved a process as the cel animation was. The only improvement is that animators get better results faster from hand-rendered graphics and saves little cost like that of cels, colours used etc.

5.2 Traditional Animation Process

Animation process typical starts with the creation of a storyboard. Storyboard represents the basic story in a visual format, like an extra-large comic strip. From story board, preliminary drawings and rough sound track animatics is created. Animatic is a simple reel of the drawings or pictures synchronized to the scratch soundtrack. This is used to test layout, composition, and to run through the script and edit scenes before investing more time and money in actual work. The next step in the traditional animation process is design and timing. This is where characters are created and, in a separate process, where the timing of the animation is laid out to the last detail in the form of an X-sheet. From here it goes to layout, where the scene angles and character poses are decided.

The next step is the main part of the project: the animation stage. This is where each picture is drawn by hand. During the animation process some artist work on the backgrounds. After animation process, comes the final stage of the project: ink and paint. This is where each frame is transferred to a cel using different techniques like tracing, Xerox etc. Then cels are colored and then finally photographed on film.

5.3 Techniques

Refer to topic 1.3 of Unit 1.

Summary

So you get an understanding of what is traditional animation and what are the techniques used.

Self Assessment Test

1. What is the starting point for an animation?
2. What is animatics?
3. What is animation stage and explain?
4. What do you mean by Cell?
5. What do you mean by scene angle and character poses?

Further Reading

- Richard Williams - The Animator's Survival Kit
- The Encyclopedia Of Animation Techniques
- The Animation Book: A Complete Guide To Animated Filmmaking- from Flip-books To Sound Cartoons To 3- D Animation
- All About Techniques In Drawing For Animation Production(Series - All About Techniques Series)

Assignment

Do Detailing in your Flip Book that you have already made in the previous unit.

UNIT 6   2D ANIMATION EQUIPMENT

Learning Objectives:

- Understand various 2D Animation Equipments

- Computer Animation Development Equipment

Structure

6.1 Introduction

6.2 Animation Paper

6.3 Peg Bar

6.4 Light Box

6.5 Drawing Disk

6.6 X- Sheets

6.7 Line Tester

6.8 A Pencil

6.9 Lightboxes

6.10   Computer Animation Development Equipment

6.1 Introduction

When you start off working for 2D animation you need to know all the 2D Animation equipments, in this unit you shall be explained and give the knowledge of what and how the 2D animation equipments are used.

6.2 Animation Paper

Paper is the most crucial requirement, and also quality of paper and size of paper is important. As you require lots of papers as you are doing hand drawings and going frame by frame.

Paper sizes:

- 12 field and 15 field are the most popular.
- 15 field is 15 inches wide
- 12 field being 12 inches wide.
- A4 size can also be used.

Paper Kind:

- professional animation paper comes with 3 punched holes
- A4 paper
- newsprint paper
- A4 size can also be used.

Your papers have to be have or be punched with holes as per the peg bar as this is important, as the slightest movement in a drawing will show when the sequence is shot.

6.3 Peg Bar

Fig 6.1 Peg Bar

Professional peg bars are a strip of steel or plastic with three pins.

You can also buy two pin peg bars called junior peg bars.

You can make your own peg bar with a wooden strip with two pieces of rod as per the holes in your paper

You can even use tape two 5mm counter sunk bolts onto your light box. These can then be used with ring binder punched A4 paper.

Better to buy a three-pin peg bar.
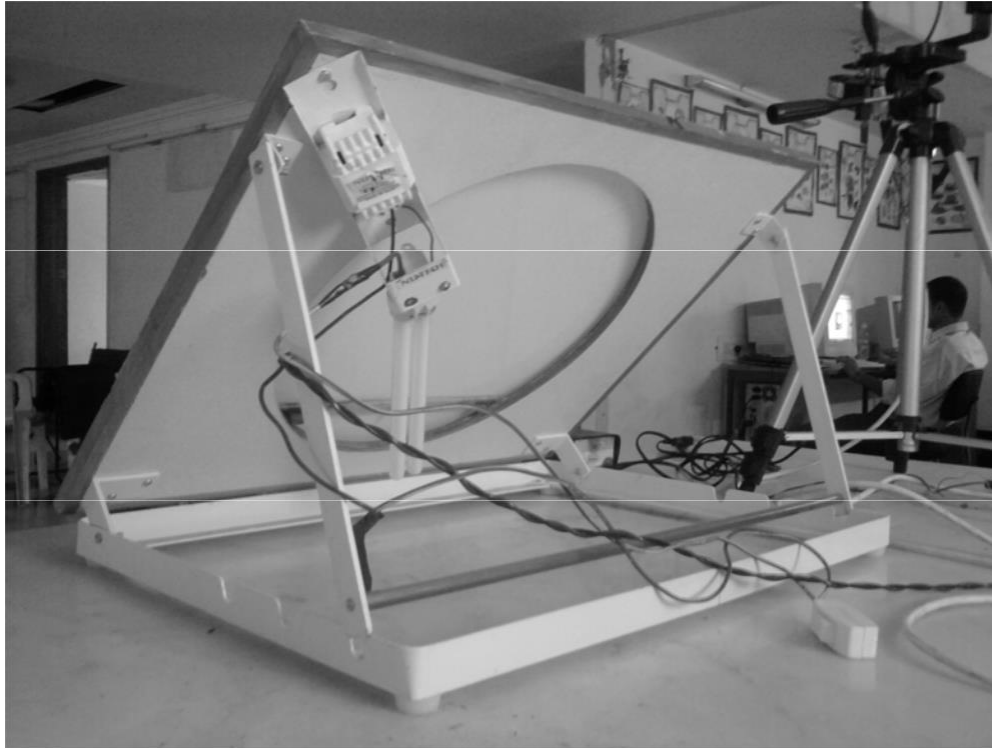
6.4 Light Box

Fig 6.2 Light Box – Back side

Fig 6.3 Light Box - front

Fig 6.4 Light Box – Back Side

Fig 6.5 Light Box – Back Side

6.5 Drawing Disk
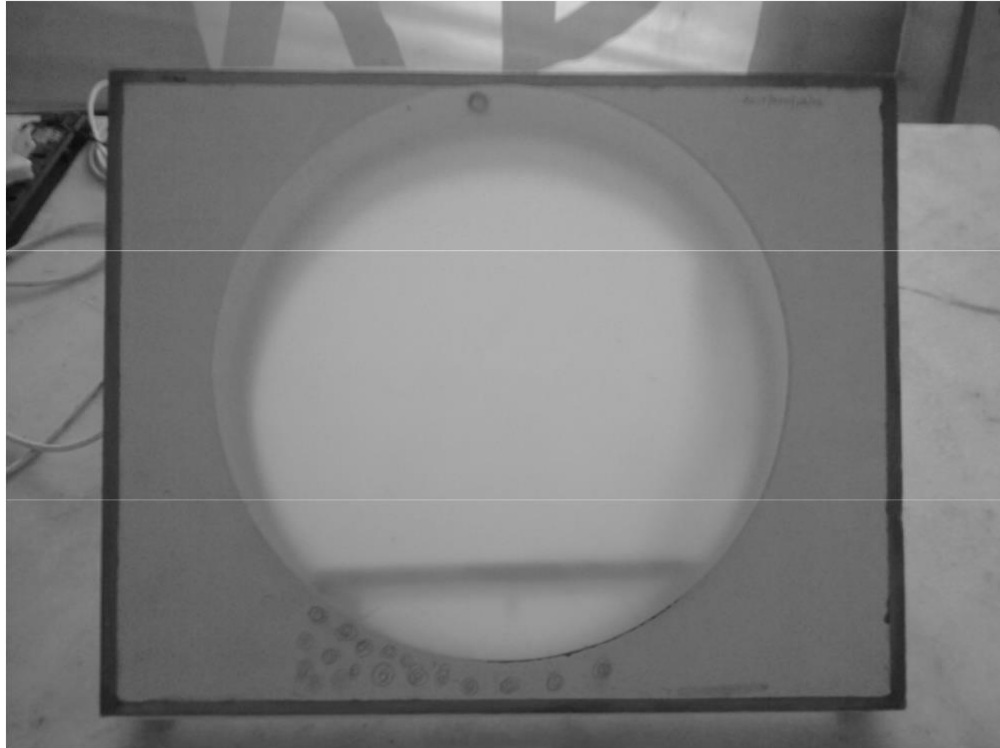
Fig 6.6 Drawing Disk

Fig 6.7 Student Using Light Box

A drawing disk is put on top of lightbox. It revolves on the light box such that your hand remains steady most of the time but the paper mounted on the disk revolves with the disk. It has two sliding peg bars at the top and bottom. They can be made of metal, plastic or wood. Paper is mounted on this disk.

6.6 X - Sheets

Fig 6.8 X Sheet

X sheets are also known as dope sheets and even exposure sheets. Animators record all necessary information relating to how the animation should be shot.

Fig 6.9 Line Tester – Top View

Fig 6.10 Line Tester – Another angle

Fig 6.11 Line Tester – Close View

Fig 6.12 Line Tester – Top View

Fig 6.13 Line Tester – Attached To A Computer

A line tester captures the drawings and plays them back. This is a fast and easy way to see if the roughly drawn sequence work well or not.

You can use a camera, a video recorder that can record single frames or even a line testing software program and a computer. You can even use a program called "Digicel Flipbook". Or can even go for using web-cam with a computer and the line testing software. You have to set the camera to point down on the table. Mount the camera on a tripod. Place your peg bar to the table then put the animation paper on it and align it under the camera. The peg bar is important in order to have accuracy while placing the drawings. It is also possible to scan drawings using a scanner but will definitely take longer time than using a camera.

6.8 A Pencil

- Use col-erase blue pencil for rough work
- Use Graphite pencil to clean up your
- You can make correct lines of the character and then add details in graphite pencil on top of the rough col-erase lines.
- The graphite line must show up more distinctly than the blue lies underneath when you line test your animation.
- Use HB or B pencil 'clean drawing
- Colored pencil for roughing out the animation

6.9 LightBoxes

Refer to 6.4

6.10 Computer Animation Development Equipment

Courtesy: http://en.wikipedia.org/wiki/Computer_animation

Computer animation can be created with a computer and animation software. Some examples of animation software are: Amorphium, Art of Illusion, Poser, Ray Dream Studio, Bryce, Maya, Blender, TrueSpace, Lightwave, 3D

Studio Max, SoftImage XSI, Alice, and Adobe Flash (2D). There are many more. Prices will vary greatly depending on target market. Some impressive animation can be achieved even with basic programs; however, the rendering can take a lot of time on an ordinary home computer. Because of this, video game animators tend to use low resolution, low polygon count renders, such that the graphics can be rendered in real time on a home computer. Photorealistic animation would be impractical in this context.

Professional animators of movies, television, and video sequences on computer games make photorealistic animation with high detail. This level of quality for movie animation would take tens to hundreds of years to create on a home computer. Many powerful workstation computers are used instead. Graphics workstation computers use two to four processors, and thus are a lot more powerful than a home computer, and are specialized for rendering. A large number of workstations (known as a render farm) are networked together to effectively act as a giant computer. The result is a computer animated movie that can be completed in about one to five years (this process is not comprised solely of rendering, however). A workstation typically costs $2,000 to $16,000, with the more expensive stations being able to render much faster, due to the more technologically advanced hardware that they contain. Pixar's Renderman is rendering software which is widely used as the movie animation industry standard, in competition with Mental Ray. It can be bought at the official Pixar website for about $5,000 to $8,000. It will work on Linux, Mac OS X, and Microsoft Windows based graphics workstations along with an animation program such as Maya and Softimage XSI. Professionals also use digital movie cameras, motion capture or performance capture, bluescreens, film editing software, props, and other tools for movie animation.

Summary

Thus you all must be now having enough of knowledge about what are the various 2D Animation equipments.

Self Assessment Test

1. What are the different field sizes?
2. Give the use of Peg Bar
3. Name the different parts of a Light Box
4. What is a Line Tester and give the uses?
5. What is the use of X Sheet?

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Assignment

MAKE ONE ANIMATED CLIP ON PAPER WITH STEPS

☐ How to go about:

☐ You have to make one animated clip of the characters he/she has designed in previous assignment.

☐ This animated clip must have background sets, environment with lights and shadows and details.

☐ Criteria:

☐ This assignment has to be made on A4 size drawing paper or cartridge.

☐ These sketches must have proper detailing and must be submitted on a portfolio only.

☐ These clips must have smooth movements and animation.

☐ The work should be neat and clean and you can use pencils and pencil colors also.

BCA (DES)301- 3rd YEAR

ANIMATION PRODUCTION PROCESS

Block 3

BCA(DES)-301

Animation Production Process

Acknowledgment

ROLE OF SELF INSTRUCTIONAL   MATERIAL INDISTANCELEARNING

The need to plan effective instruction is imperative for a

Successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual

Involvement and contain all the necessary learning instructional activities ties that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

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Students 'assessment and course evaluation are incorporated in the text.

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UNIT 7, 8 THE WALK CYCLE I, II

Learning Objectives:

- How to go about visualizing a character

- Work and understand various walk cycles

Structure

7.1 Introduction

7.2 The Walk

7.3 Characterization

7.4 Some Tips and Tricks

7.5 Visual Accents

7.6 Some More Examples

7.7 Movements of Two Legged Figure

7.8 Movements of Four Legged Figure

7.9 Front+Rear Views of Figure Movements

7.1 Introduction

In animation process walking sequence is called as a walk cycle. Walk cycles are important, because the walk cycle simply can be looped over as a sequence of walk cycle starts with the one foot and ends at the same foot. This way walking animations of the characters can be looped with less effort. The same frames can be used again and again.

7.2 The Walk

The walk cycle is one of the most important and technically difficult concepts to learn in any kind animation and because it requires so much attention to the movement of all limbs.

No doubt that walk cycles are difficult to learn but if you master a walk cycle then you can animate just about anything. There are different types of walk cycles for different types of living beings and you can vary the walk cycle to match the different attributes of the character or his/her mood; The walk cycles can be bouncy, shuffling, casual slouches, etc. But the simplest among all is the standard upright walk, viewed from the side.

7.3 Characterization

Characterization is the process of developing a character. The process includes following:

1. Showing the character's appearance.
2. Displaying the character's actions
3. Revealing the character's thoughts
4. Letting the character speak
5. Getting the reactions of others.

Characterization is the process of showing the information about characters in an animation. Characters are usually presented by description and through their appearance, actions, speech and thoughts.

7.4 Some Tips And Tricks

People in real life are multi dimensional, so are the characters in a story. But for a writer or the designer it is too hard to emulate the same as he only has a small part of a character's life to work upon.

So how can a life like character be created, who has a past and a future, and has the full range of character development shown in the creation?

When writing a story, you want to have realistic characters, which seem complete and have an extension of their lives beyond the story. The best way to do this is to do a good research on your character from real life.

The details you may need to know:

* What does he like to eat?
* What is his favorite color?
* How active is he?
* Where was he born and brought up?
* How old is he?
* Did he grow up with his parents or as an orphan?

The audience doesn't need to know all the life story of the character. In fact, if you tried to give all this information to the audience, then probably the animation wouldn't be all that great, because it would be having just the life story of one character.

This question may arise in your mind that if we are not going to use all this information in our movie then why we need it. The answer to the question is simple; we use this information to draw conclusions about how the character will

act and why.

Knowingly or not, we do the same thing with people in our lives. While interacting, we have an idea about how the person is going to react back to us. This we get from our past experience and knowledge about that person. With a character in animation you don't have that past experience and knowledge as the character isn't real person, meaning they can't gain life experiences that authors don't give to them; it becomes your job, as the author, to give the character those life experiences.

You can emulate a life like character only when you know him that well that you see from his perspective.

7.5 Visual Accents

Research and evaluate

Sometimes to understand a character well, it can be helpful to try and analyze why there are some characters are liked more and some aren't. You should also study and research on such successful character. Deconstruct or break their personality down to pieces and analyze the individual piece. You can find a lot of research material everywhere: on TV commercials, packaging boxes, shop glow signs, animations on mobile phones, and more. Study and think about what makes some successful so and what in particular you like about these characters.

Design and plan

The looks, the appeal and appearance of the character is depended on the medium on which it will be shown. Nathan Jurevicius says, regardless of the format, "The process of thinking up concepts always starts the same: paper, pencil, green tea... lots of thumbnails, written ideas, scratches and sketches over sketches."

Who is it aimed at?

Who is you audience? Ask yourself this question as you start to design your character for example, if your character is going to aim at young children then they are designed with some basic shapes and bright colours. Nathan Jurevicius explains: "Commissioned characters are usually more restrictive but no less creative. Clients have specific needs but also want me to do my 'thing'. Usually, I'll break down the core features and personality. For example, if the eyes are important then I'll focus the whole design around the face, making this the key feature that stands out."

Visual impact

When you are designing your character keep in mind that there can similar characters out there, so the character you are going to emulate needs to be strong, interesting in visual sense and more over appealing to get the attention of the target audience.

Line qualities and styles

The quality and style of the lines of which your character is made out helps in many ways to define its characteristics. Thick, even, soft and round lines suggest a cute character, whereas sharp, scratchy and uneven lines point to erratic character. Sune Ehlers explains: "Drawing a doodle is about decisive pen-manoeuvering. A strong line for me comes from strength and rhythm."

Exaggerated characteristics

Exaggeration, in animation language, is not distortion of a drawing or violent action. It¹s like exaggerating the actions like if a character has to be shown sad then exaggeration would be showing him sadder, if a character is happy then show him more happy and if he is wild than show him wilder. Exaggeration in a walk or an eye movement or even a head turn can give more appeal. Exaggeration is a caricature of realism; it's like making the figure look more convincing to the audience. Exaggerating the features of your character will help it appear larger than life. Exaggerated features help viewers to identify the character's key qualities more easily. Exaggeration is a key feature in creating cartoon caricatures.

Colours

Colours communicate a lot and they can help in communicating a character's personality. Dark colours such as black, purples and greys depict bad characteristics with malevolent intentions. Light colours such as white, blues, pinks and yellows express innocence, good and purity. In Comic characters reds, yellows and blues might go some way to giving hero qualities to a character.

Goals and dreams

Understanding the goals, dreams or the driving force of a character also describes the personality, be it riches, a girlfriend or solving a mystery. This can help to emulate the remarkable thrust in the story and adventure the character is up to. Some flaws, weakness or often incompleteness in a character make the plot more interesting.

Quick on the draw

If you characters are quick and easy to draw, it can help a lot to the other artists to work upon it. Easy characters means simple and appealing. Just don't be afraid to experiment. Many a times going against the right way of doing a work could create unexpected and exciting results, so be creative and innovative. "I just listen to music and draw the result dependent on my mood: freaky or cute. I always want to have a drawing that I find interesting. I then work more on the character after its okay with me and my brain," Yuck says.

Hone, plan and polish

Nathan Jurevicius prefers to take a different approach instead of drawing without much pre-planning. According to him "I take a long time creating finished looking roughs and also thinking about how the character could be expanded beyond a 2D artwork, what the character will do in a specific world, and how it speaks and acts,".

Drawn in mud

The tools to create a character are not important. In early days, when there was no computer and drawing or colouring software were just dreams, a lot of amazing characters were successfully designed. Sune Ehlers puts it as, "The character should still be able to work with a stick dipped in mud and drawn on asphalt."

Beyond the character

The way you create a history for your character, the same way you have to build an environment for it to help further strengthen the believability of the creation. The world in which the character lives and interacts should in some way make sense to who the character is and what it's up to.

Fine-tuning a figure

Illustrator Neil McFarland advises: "Think about the meaning of the word 'character'. You're supposed to breathe life into these things, make them appealing and give them the magic that will allow people to imagine what they're like to meet and how they might move. I think it's strange how creating characters for the sake of it has become a distinct branch of graphic design."

7.6 Some More Examples

Fig 7.1
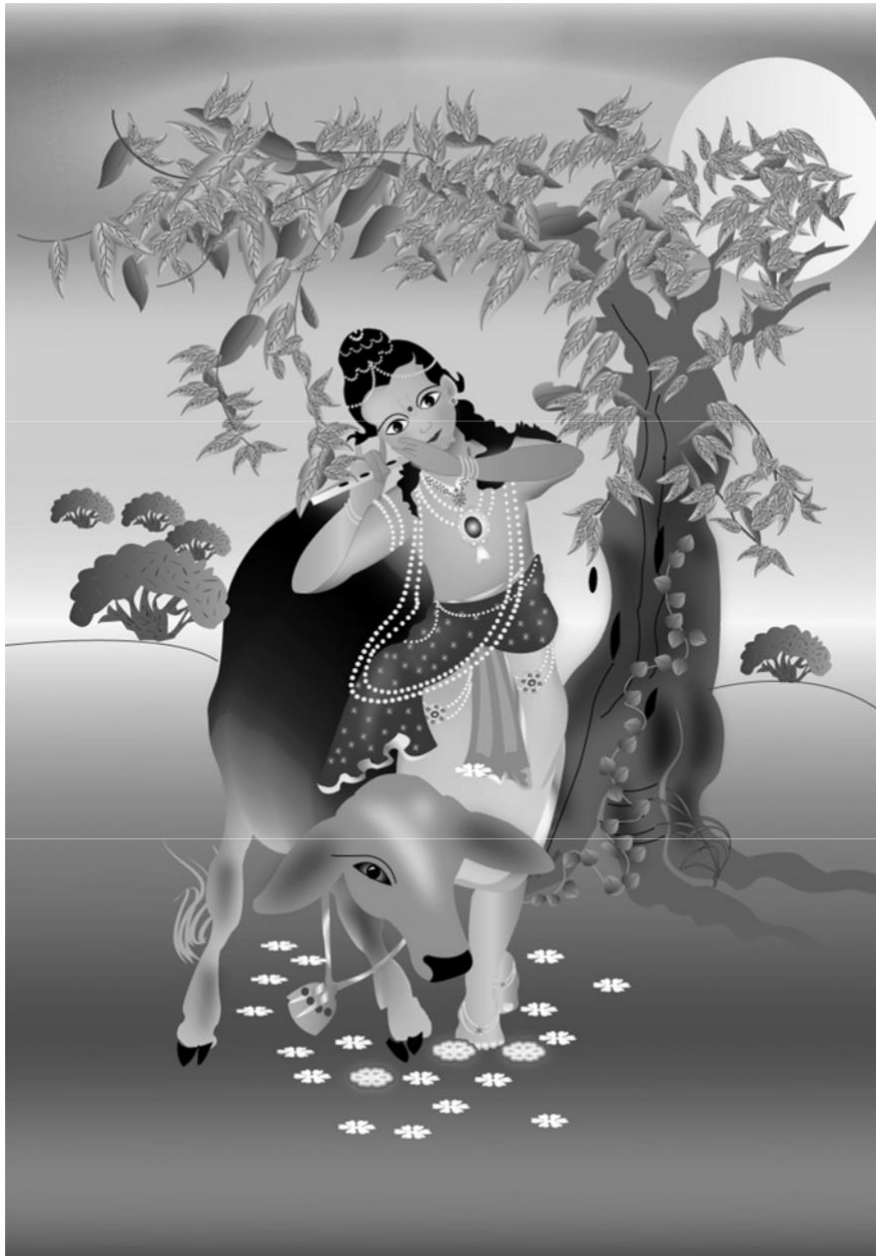
Fig 7.2

Fig 7.3

Fig 7.4

Fig 7.5

Fig 7.6 Movements of the two legged figure

Courtesy "Animation - How to Draw Animated Cartoons" by Preston Blair

MAN WALK CYCLE   FRAME:1

AN WALK CYCLE   FRAME: 2

MAN WALK CYCLE   FRAME: 3

MAN WALK CYCLE   **FRAME:4**

MAN WALK CYCLE   **FRAME:5**

MAN WALK CYCLE   **FRAME: 6**

MAN WALK CYCLE   **FRAME: 7**

MAN WALK CYCLE   **FRAME: 8**

MAN WALK CYCLE   **FRAME: 9**

MAN WALK CYCLE   **FRAME:10**

MAN WALK CYCLE   **FRAME:11**

MAN WALK CYCLE   **FRAME: 12**

MAN WALK CYCLE   **FRAME:13**

Fig 7.7 Man Walk Cycle

7.8 Movements Of The Four Legged Figure
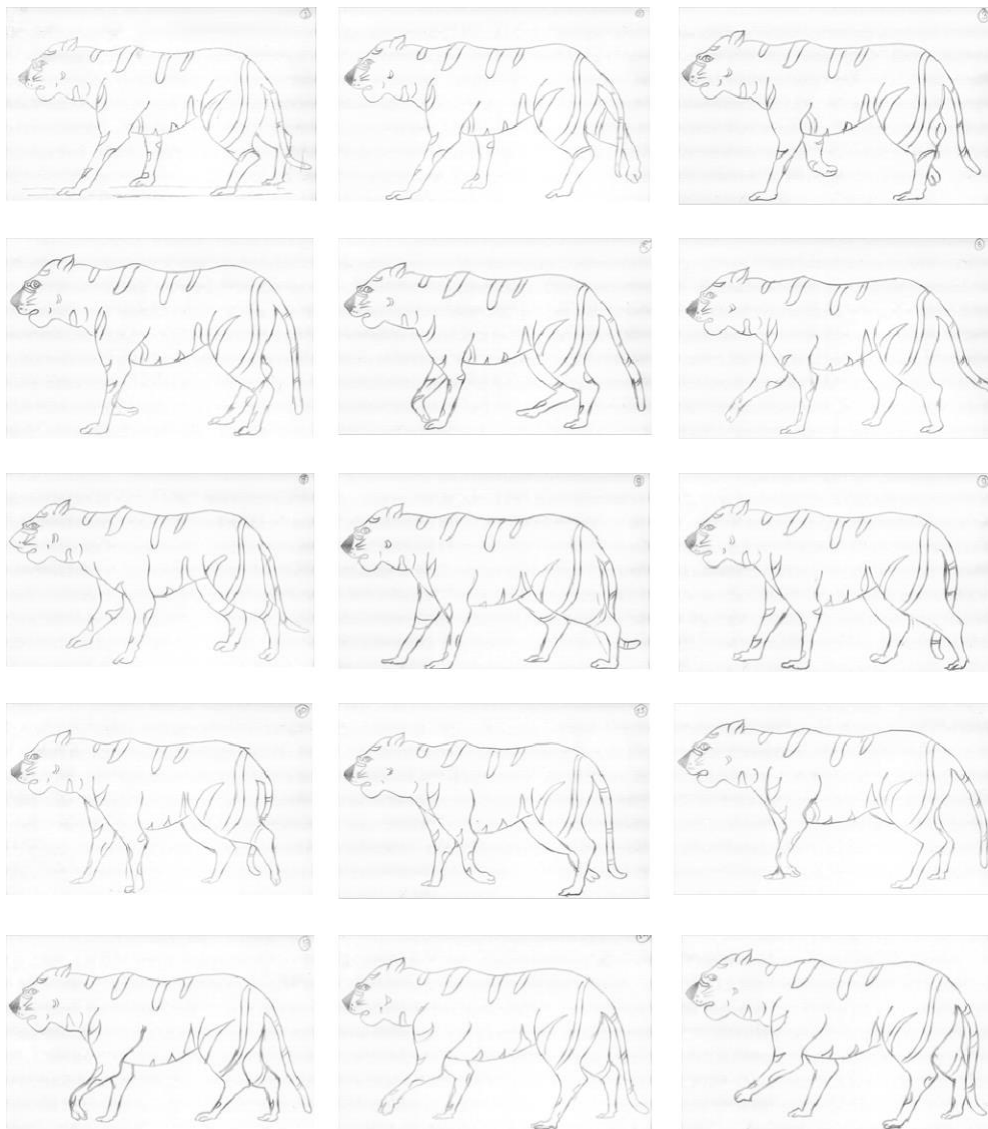
Fig 7.8 Movement of Four- legged Figure

7.9 Front+Rear Views Of Figure Movements
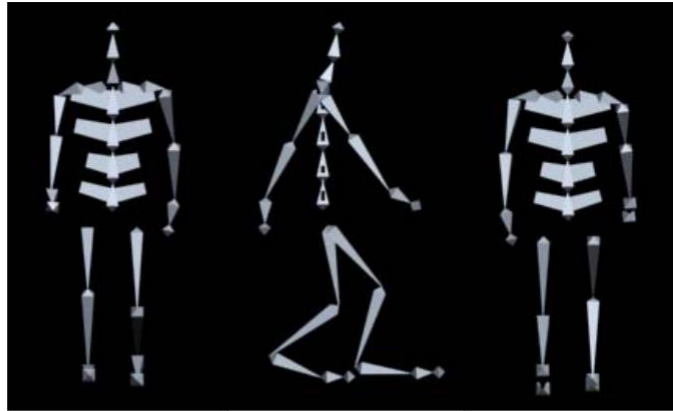
Fig 7.9 Front Side Back View of Figure Movements

Summary

You now you get hands on making 2 legged and a 4 legged walk cycle.

Self Assessment Test

1. What is a Walk Cycle?
2. Give all the steps involved in Characterization
3. Give the steps to develop a character
4. How do you design & Plan?
5. Why do you add accessories to your character?

Further Reading

- http://fangmarkedwriting.blogspot.com/2009/07/character-visualization.html
- http://www.brighthub.com/education/k-12/articles/33148.aspx
- http://www.algebra.com/algebra/homework/equations/hilomath-visualization-1.lesson

Assignment

CREATE KEYFRAMES OF A WALKCYCLE IN THE SPACE GIVEB BELOW OR ON A CARTRIDGE PAPER. USE CAN USE LIGHT BOX IF YOU WISH

- □ How to Go About:
    - □ Study the sequence of the animation that you are going to create properly. Draw the object as per the walk cycle you decide. Give the appropriate backgrounds. After creating a walk cycle you have to compulsory add an environment. The assignment has to have a message or a concept or an idea behind the walk cycle.
- □ Criteria
    - □ Rhythm of the animation has to be perfect
    - □ Conceptual walk
    - □ Walk as per the characteristics and set of the character

UNIT 9, 10   THE INBETWEEN PROCESS I, II

Learning Objective

- Understand the process of in - betweening

Structure

Animation Production Process

9.1 Introduction

Inbetweening or *tweening* is the process of drawing and creating frames between the two key frames to give smoothness to the animation. Inbetweens are basically the images between the two key frames which create the illusion of motion. The speed of animation depends upon the number of in betweens drawn.

Inbetweening, also known as tweening, is the method in which a drawing is evolved into the next drawing. For example, if in the first key drawing one shape is on the left hand side and in the last key drawing the same shape is shown at the right hand side then the process through which that shape is moved from left to right in such a way that it appears to be moving using different number of drawings which are drawn in between the first and the last drawing is called inbetweening or tweening and the drawings which are drawn are called as inbetweens or just the tween.

9.2 Steps To A Good In-Between.
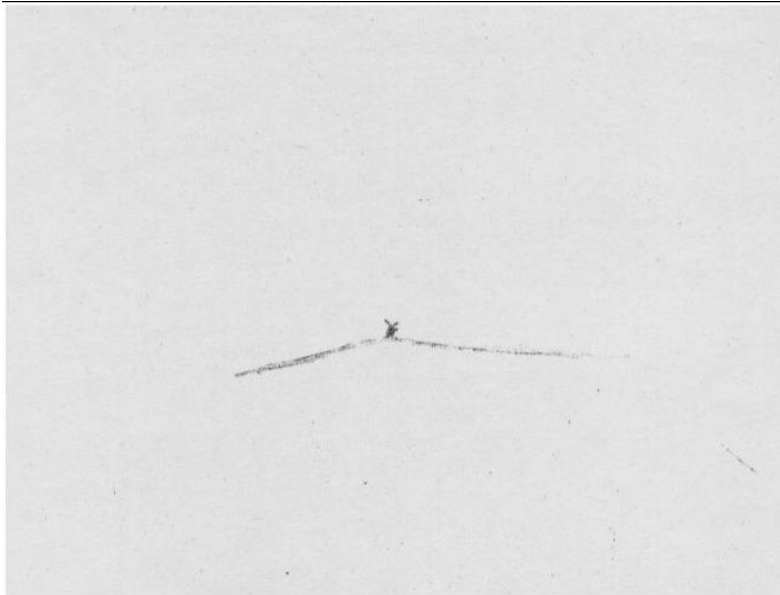
Fig9.1 First Key Frame
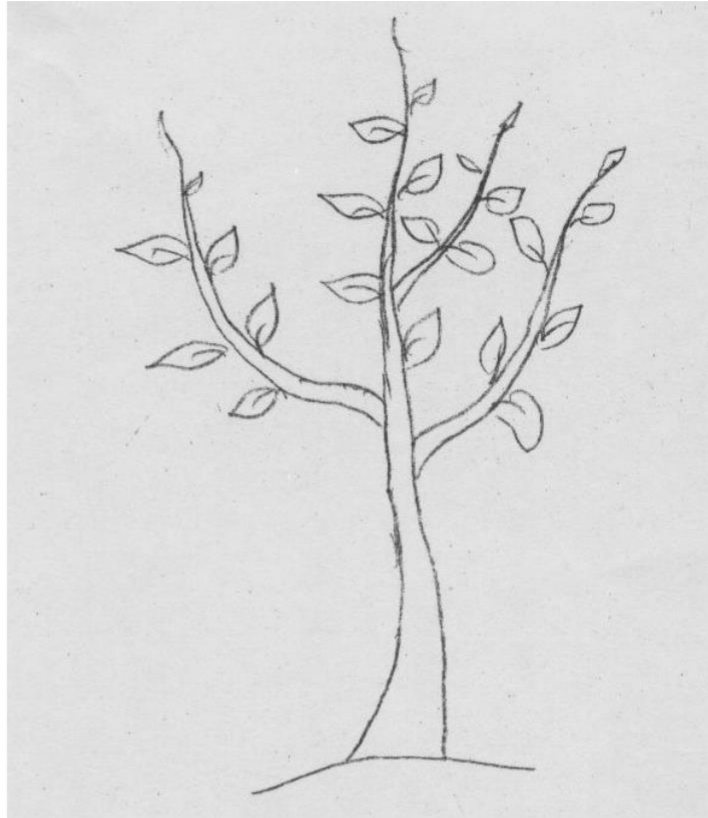
Fig 9.2 Next Key Frame

Fig 9.3 Inbetween Frame 1
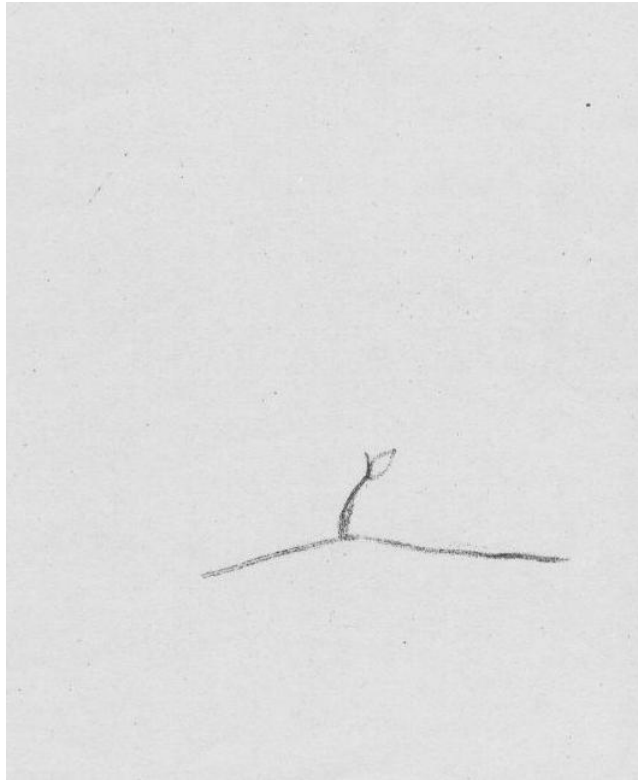
Fig 9.4 Inbetween Frame 2
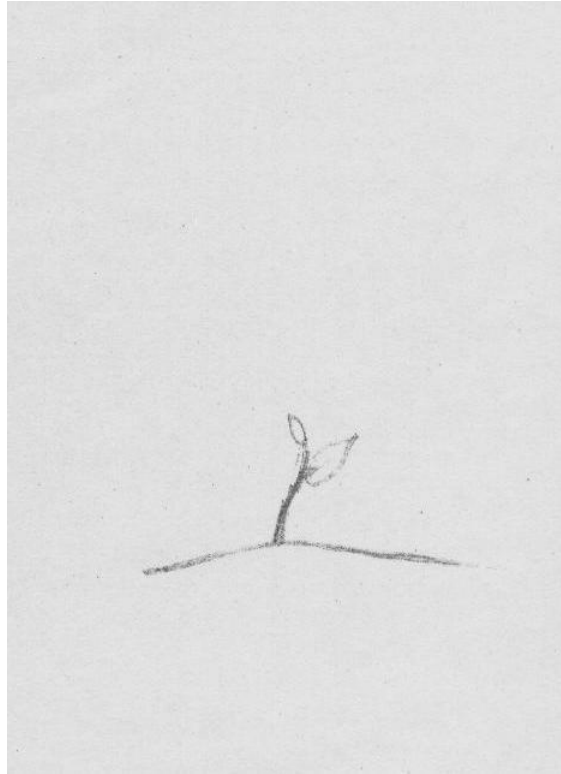
Fig 9.5 Inbetween Frame 3
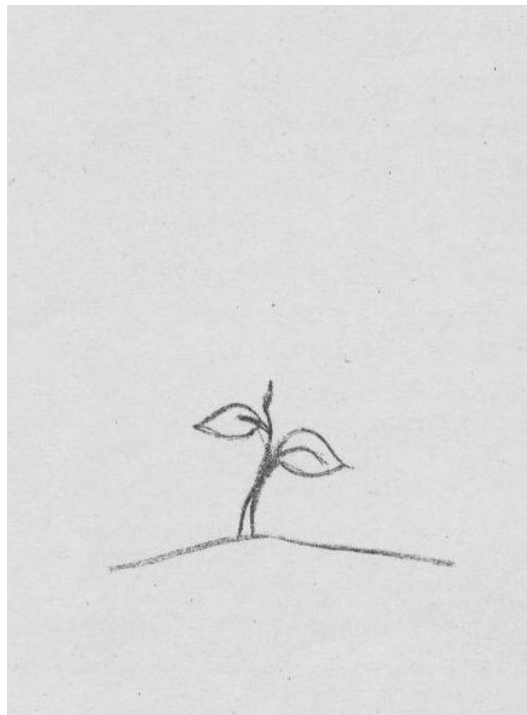
Fig 9.6 Inbetween Frame 4
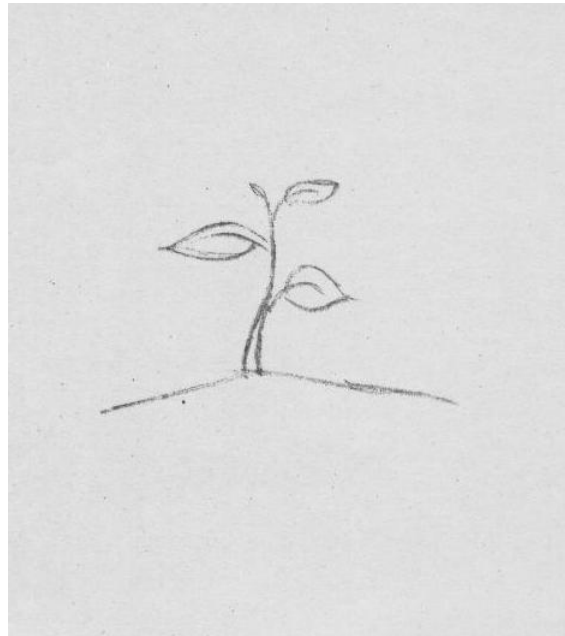
Fig 9.7 Inbetween Frame 5
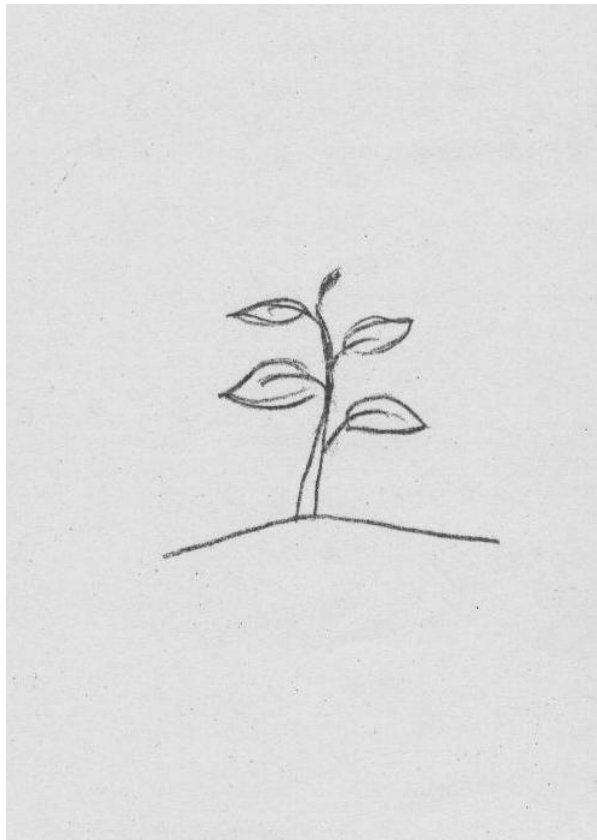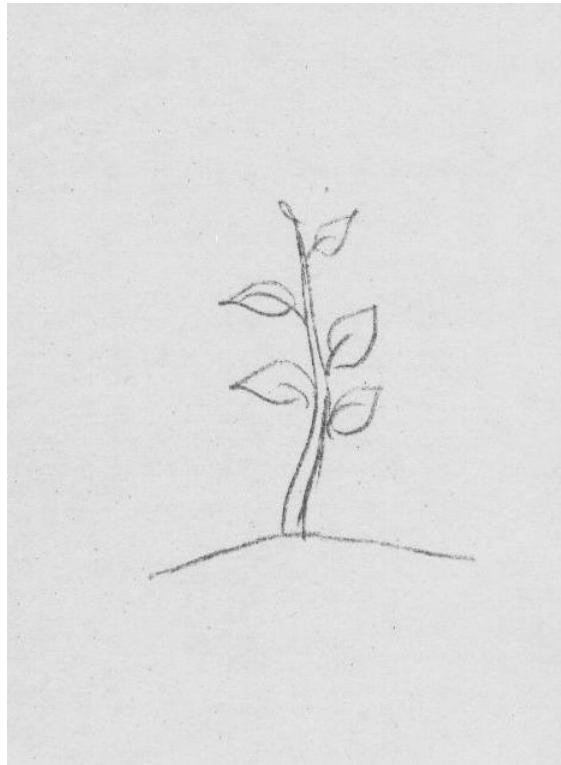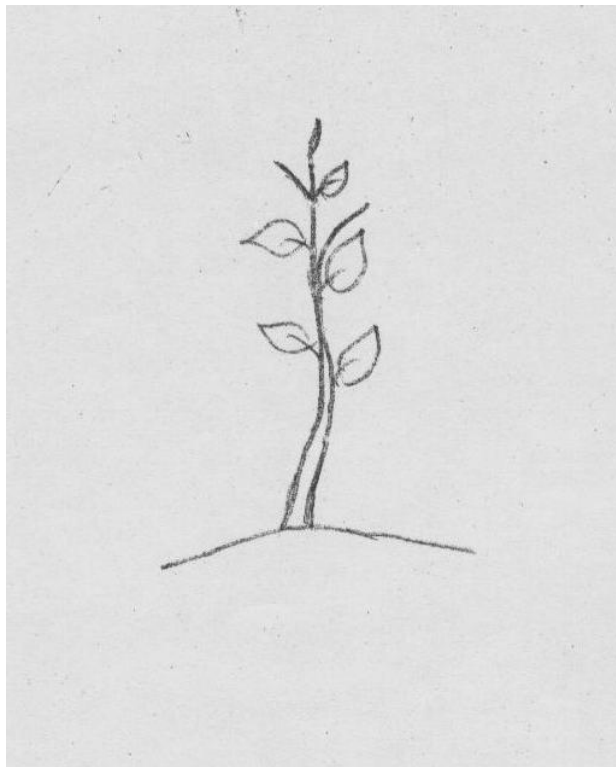

Fig 9.8 Inbetween Frame 6

Fig 9.9 Inbetween Frame 7

Fig 9.10 Inbetween Frame 8
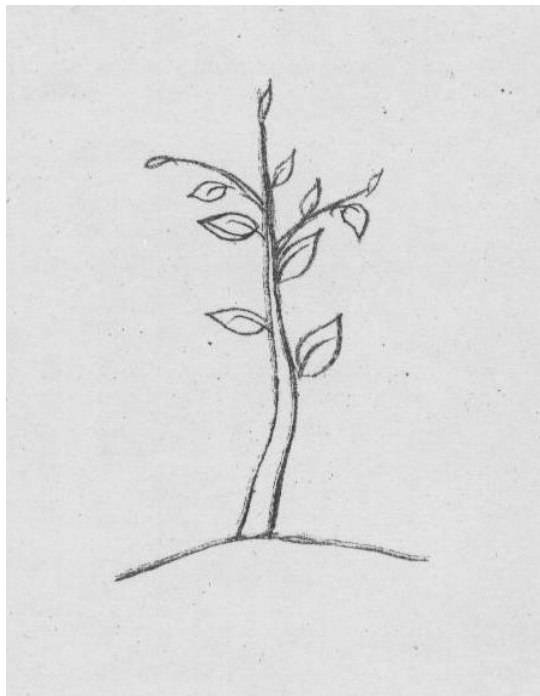
Fig 9.11 Inbetween Frame 9
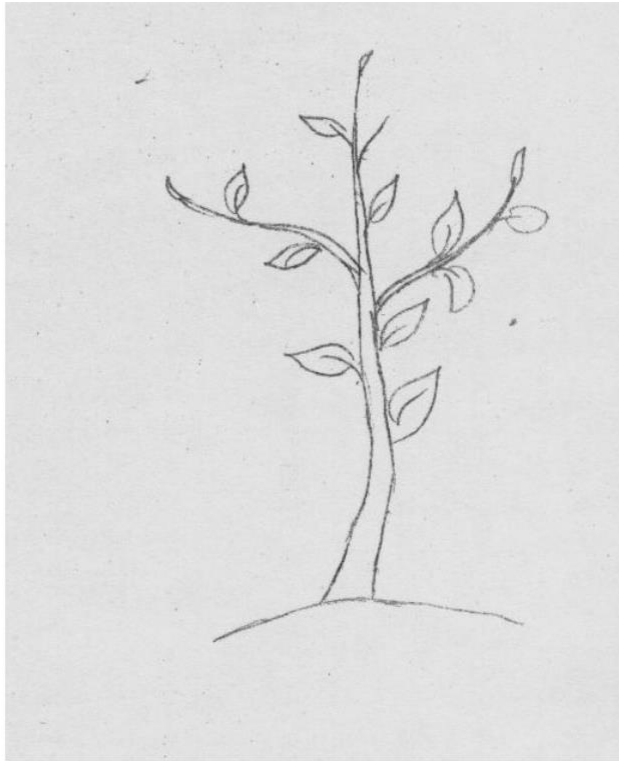
Fig 9.12 Inbetween Frame 10

Fig 9.13 Inbetween Frame 11

Animation Production Process
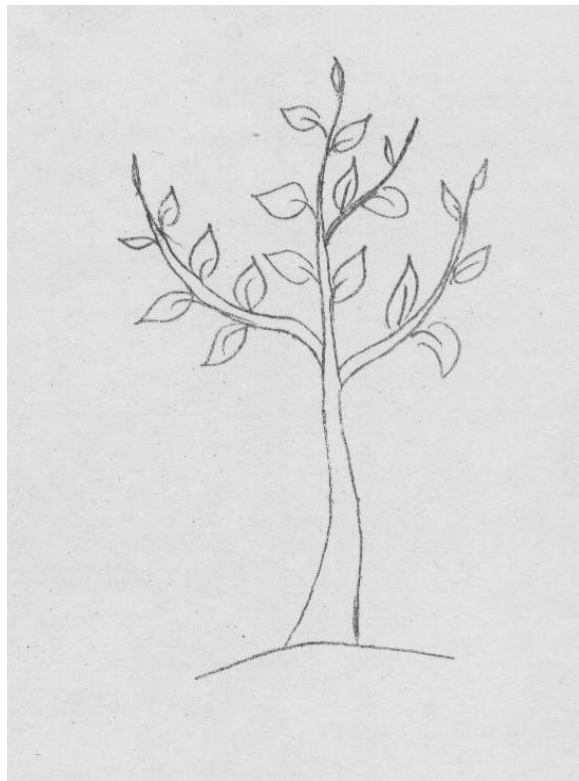
Summary

So you have got the broad approach to inbetweening/cleanup using an example of a leaf to illustrate the points; however unless you are working on an animated musical about floating leaves, you will do very different inbetweens You have now the basic tools for inbetweening, but it's your job as an artist to figure out when and how to use those tools for each individual inbetween.

Self Assessment Test

1. What is Tweening?
2. What are frames?
3. What are Keyframes?
4. What does inbetweening involve?
5. Give material need to make inbetweening.

Further Reading

- http://www.google.co.in/search?hl=en&defl=en&q=define:Inbetweening& ei=_0iSSoz4M9GZkQXFjs27Cg&sa=X&oi=glossary_definition&ct=title
- http://portal.acm.org/citation.cfm?id=508552
- http://www.animationartist.com/columns/JFalkowski/Inbetweening_Tutori al/inbetweening_tutorial.html

Notes

Assignment

CREATE INBETWEEN FRAMES OF A WALKCYCLE IN THE SPACE GIVEB BELOW OR ON A CARTRIDGE PAPER. USE CAN USE LIGHT BOX IF YOU WISH

- How to Go About:
    - Study the sequence of the animation that you are going to create properly. Draw the object as per the walk cycle you decide. Give the appropriate backgrounds. After creating a walk cycle you have to compulsory add an environment. The assignment has to have a message or a concept or an idea behind the walk cycle.

- Criteria
    - Rhythm of the animation has to be perfect
    - Conceptual walk
    - Walk as per the characteristics and set of the character