

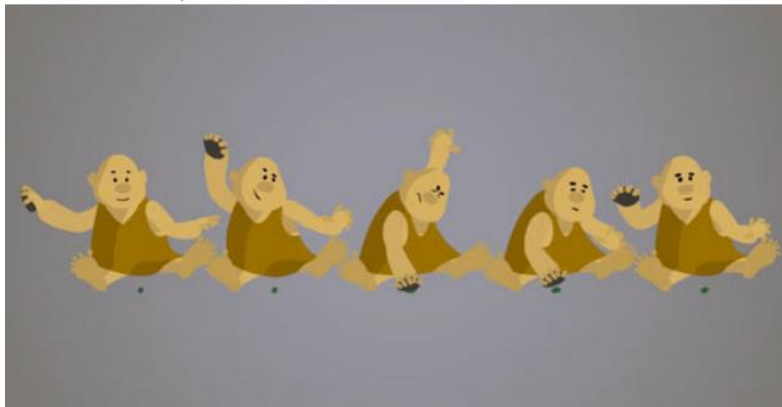
Limited Animation

Limited animation is a technique or process in animation where reusing of animated frames, mirroring of images (characters) and drawing new frames only when necessary are done to limit down the work, save time and ultimately reduce the budget.

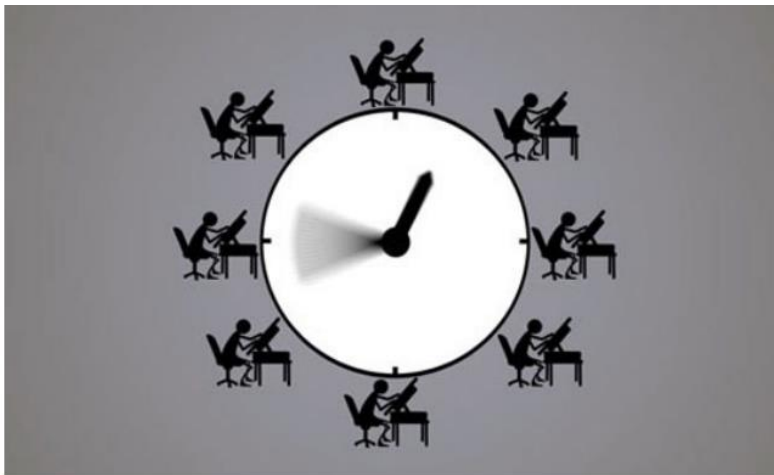
Limited Animation runs on 4-12 or 8-12 frames per second. It started as an artistic experiment, later its cost cutting capability made it more popular.

Techniques

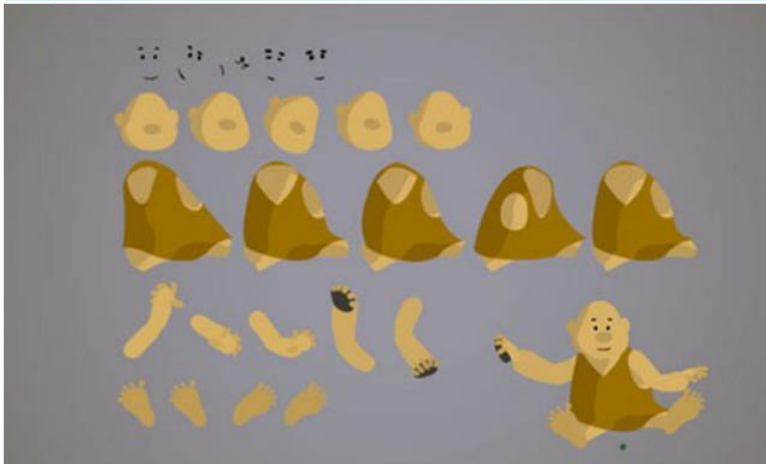
Limited Animation's basic purpose is to reduce the budget and it does: By using these techniques: • Cels and sequences of cels were used repeatedly—animators only had to draw a character walking once. • Characters are split up and drawn in separate layers: only portions of a character, such as the mouth or an arm, would be animated on top of a static cel.



• Clever choice of camera techniques, angles and editing. • Using of mirror image of the cell to represent the opposite angle also known as Cel reversal. Most of the cartoon characters are drawn symmetrically to expedite this technique.



- Here more emphasis was given to voice talent than visuals.
- Use of Libraries i.e. before animating, all the parts of the character are drawn separately in different layers and are kept in library. Later those drawings are used from the library according to the requirement of the animation.



- Extensive recaps of previous episodes or segments, to cut down on the amount of new material necessary (used often in serial shows like Rocky and Bullwinkle or Underdog).
- Syncro Vox is a process in Limited Animation that involves pasting a film of the moving lips of a real-life person over a still frame of an “animated” character to give the appearance that the character is doing the talking. Cambria Studios held a patent on the technology, and as such, it was primarily used on their productions, such as Clutch Cargo; it still has limited use today, the most widely known example being the online series The Annoying Orange.
- Chuckimation, another notoriously low-budget process, simply moves various “animated” figures by hand or by throwing them across a space. Most commonly used with stop-motion animation, it usually does not allow for characters’ mouths to move.



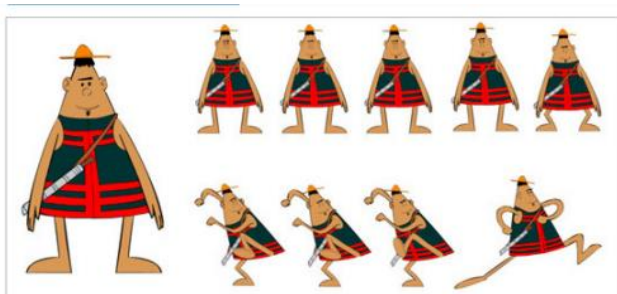
Processes

Types of Processes: Digitalization has completely revolutionized the way once animation was done. It has helped in speeding the animation process and even added more creative possibilities. Budget and time has always been a crucial deciding factor for Animation. For Limited Animation it is even more

crucial and the invention of TV has challenged the animators even more to create animation in lesser time with low budget.

Lets have a look at how the animation can be minimized for Limited Animation: The character designs including BG and other props for the Limited Animation are very simplified and stylistic rather than being very realistic. Mostly they are symmetrical to make the drawing easier and faster. Each part of the character that is to be animated is drawn in different layers. These parts are then archived and saved in a Library, which are later swap according to the requirement of the animation where as the static or non-animated part remains as it is.

This process makes it easier for the animators to use the same parts of the character repeatedly for different frames according to the requirement; by this one does not have to keep drawing the same part/static images again and again for every frame.



Gesture.

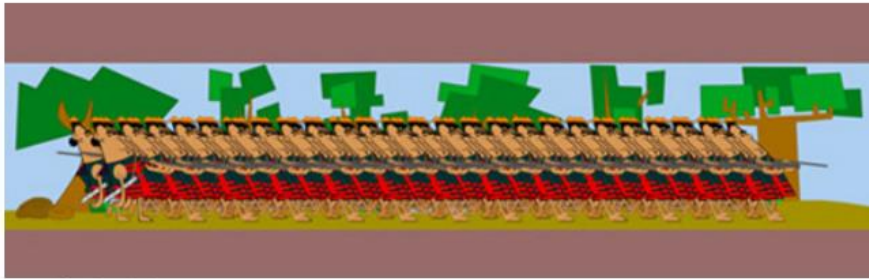


Library.

Being limited the animations are bit jerkier, far from realistic and very smooth. But still the animation looks believable and works well with these simple and stylistic characters. This type of jerkier animation would hardly work for more realistic characters. Using Loop and Pan Animation - is one of the prominent features of Limited Animation. For instance, a walk cycle or a run cycle, here moving the character from one end to the other would have taken a lot number of drawings consuming more time. But if one complete walk or a run cycle is drawn and is kept in loop, where as the background is pan, it creates an illusion of the character moving from one end to the another end. And this can be achieved in fewer drawings in much lesser time.



Loop.



Many drawings in loop.

Motion Tween is a feature in most of the animating software that allows doing simple object animations. One can create a motion tween, which will automatically move the object from the beginning location to the end location. Here the animator does not have to draw the in-betweens but only have to drag the object from the starting point to the end point. Rest the in-betweens are calculated by the computer and generated, which animators does not have to draw. Smear pioneered by Chuck Jones with his film 'The Drover Boys' is one of another ways of cutting down the drawings in animation. Smears in animation are frames between two key frames, which holds a whoop or an elongated shape to describe or convey an exaggerated motion. One can create dramatic and fast motion using it in just few frames. Another is multiple animations where a single frame contains three or more drawings of the same part describing the motion.

Camera Angles and cuts are other tricks to cut down the animation. Also music, voices and effects play a greater role in cutting down the animation. There can be many more ways to cut down the animation if figured out. Here one has to keep in mind that the animation being limited should still convey the story clearly.