DESIGN SPECIFICS OF CUTOUT ANIMATION IN THE ADOBE ANIMATE PROGRAM

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Abstract. Cut out animation is a simple and oldest type of animation, which is inextricably linked to the Chinese shadow theater. It's a type of stop motion animation that uses cutouts or flat pieces for characters, props, and backgrounds. Unlike other types of animation that come from stop motion and have volume like puppets, in the cutout everything is flat and gives the appearance of 2D. As in all stop motion sub-techniques, the character is animated frame by frame. Cutout animation was first used in a short film in 1906. At least that's the first record we have. The silent film is known as Humorous Phases of Funny Faces and belongs to the British director James Stuart Blackton. With the development of computer technology, this type of animation received a new life. Despite its long history, cut out animation has not lost its relevance and is actively used in animation studios around the world. Doing it in the program is much more convenient, because all elements can be created immediately in the program without wasting extra materials, you can also import any image created in another program, or simply a scanned element created by hand from classic materials such as cardboard and paper. Adobe Animate works with a system of layers and symbols for ease of animation. Symbols can be divided into individual layers, and each symbol can contain several others. Each symbol has its own timeline. This extensive system allows you to work in detail with each individual element and with the complete object.

__The purpose is__ to investigate the historical development of cut-out animation; to identify the specific features of cut-out animation in Adobe Animate program.

__Methodology.__ The article uses traditional scientific methods of historical analysis, comparative analysis, the method of system-structural analysis.

__Results.__ The historical development of cut-out animation was studied, the specifics of modern cut-out animation in the Adobe Animate program were revealed.

__Scientific novelty.__ The principle of operation of the Adobe Animate program with cut animation is considered.

__Practical significance.__ This material can be used in the cultural and educational process in the training of graphic designers.

Key words: design, Adobe Animate, cut-out, graphics, illustration, animation.

INTRODUCTION

Cut out animation is a simple and oldest type of animation, which is inextricably linked to the Chinese shadow theater. With the development of computer technology, this type of animation received a new life. Despite its long history, cut out animation has not lost its relevance and is actively used in animation studios around the world. The most popular programs for this are Adobe Animate and Toon Boom

Harmony. Here we will investigate the specific cut out animation in Adobe Animate. Also, you can find a lot of videos on YouTube about creating cut-out carácters in Adobe Animate.

PREVIOUS INVESTIGATIONS

There are many investigations and explanations of this theme available to read.

For example, a nice article from Adobe company, where you can learn: what is a cut out animation? What are the advantages of paper animation? How to do paper cut out animation.

Also, here you can see cut out animation examples. It's a nice material to begin with.

If you are more interested in the history of cutout animation, then in the article from Cinema Saturno you can find out a lot of interesting things about the first cartoons registered in this technique. It also details the process of creating a stop motion cutout animation with great examples. But the topic of this article in the scientific literature is not disclosed enough.

RESULTS AND DISCUSSION

Cutout animation is a type of stop motion animation that uses cutouts or flat pieces for characters, props, and backgrounds. Unlike other types of animation that come from stop motion and have volume like puppets, in the cutout everything is flat and gives the appearance of 2D.

As in all stop motion sub-techniques, the character is animated frame by frame.

That is, a photograph is taken of the composition of cuts. The composition is usually flat on a table and the camera is overhead (above the table and pointing down at the composition). Then a brief movement of the character is made and another photograph is taken.

The characters are flat and the composition is layered. The layers together with the various positions of the paper are the only thing that gives the illusion of three-dimensionality.

The materials that are usually used are different types of paper and cardboard, fabric, photographs and any flat texture that can be cut out. Frequently the front view of the characters is designed, then the parts of their body are cut out and it is especially the limbs that must be separated. These are then attached at the joints with tacks, paper pins, stitching, or something that allows for movement in two dimensions. Although they can also become loose if one is very careful with the movements, joints at the joint (like a paper doll or puppet) simplify the action. If it is necessary to show another view of the character, it will have to be drawn and cropped.

Antecedents to this technique, and indeed to many animation techniques, are Chinese shadow theater and puppet shows such as wayang puppets. Inspiration was drawn from these art forms to explore other media and materials. For example, the German animator Lotte Reiniger.

In 1919, Charlotte' Lotte' Reiniger began making short films using the medium of cut-out silhouettes, which she called "cut-out silhouettes." She was given this name in honor of the black on white material she used to produce otherworldly shadow effects that were considered intriguing, experimental, and revolutionary at the time. Not only is cut-out animation one of the oldest, but it is also one of the simplest animation techniques. Cutout animation was first used in a short film in 1906. At least that's the first record we have. The silent film is known as Humorous Phases of Funny Faces and belongs to the British director James Stuart Blackton. After the previous short, the first feature film using cutout animation was recorded. The Argentine animator and director Quirino Cristiani made a tape in 1917 entitled The Apostle. Unfortunately, no copies have survived as his films were lost in a fire. However, there are fragments recovered, some reconstructed and there is even a making of his work.

The first step in the process is sketching. Start by drawing your characters and props in full, paying attention to sizing so they can be used as a template later.

Next, draw each body part separately, ensuring that the head, arms, and legs overlap. It is helpful to create different angles of the character, such as front, back, and profile, for more dynamic movement. Next, assemble the characters by attaching the individual body parts together with aluminum wire or glue. Make sure the wire is secure and avoid lumps of glue. Remember to segment the facial features as well so they can be animated within the sequence. Place the assembled character flat on the background. The final step is animating. This can be similar to stop-motion animation. Hold the characters in their positions for long enough for the audience to understand their intentions and emotions. Then, move the character frame by frame, following the principles of anticipation, ease in and out, and follow through as outlined by Disney animators Ollie Johnston and Frank Thomas. Use the initial sketches created from different angles and transition between views for a natural effect.

By capturing these incremental movements and stringing them together, the animator is able to create the illusion of movement and bring their cut-out creations to life. This

technique has many variations and approaches. Typically, the clippings are from greeting cards, paper, fabric, or even photographs. The pieces are cut out and utilized as stop-motion puppets, with each divided into as many elements as necessary to animate the object. As an illustration, to animate a character's hand, the motion should follow the forearm, which in turn should follow the arm attached to the shoulder. Make sure this is the case in order to keep your animation realistic and logical.

Shadow puppetry, a centuries-old storytelling technique involving flat cutout figurines held between a light source and a translucent screen, has its origins in this simple approach. A major difference here is that stop motion is used instead of puppetry which relies on physical manipulation. However, an important similarity between cut-out animation and silhouette style is its application in the latter. As with any other art form, animation has adapted extremely well to our modern technological world in the last several years.

Contrary to popular belief, cut-out animation is one of the few techniques in the medium that has remained relatively unchanged over time. Despite its illustrious history, filmmakers continue to be inspired by Reiniger's eccentric approach. Even in today's modern world of art and design, the cut-out is still a great way for novice animators to begin due to its simplicity and efficacy.

Most importantly, for a lone animator working on cut-out animation, it necessitates significantly fewer drawings than full-scale cel animation, which saves time and money. For example, an animator can use a single drawing that has been split into bits to portray movement that would otherwise take hundreds of cels to represent it. Let's consider how this type of animation can be done in the computer program Adobe Animate. Of course, compared to the classic method, this one has its own characteristics.

Image 1. Drawing converted to "Symbol"

Image 2. Placing of the pivot

First of all, it should be said that the principle of animation remains the same, namely, the character consists of individual parts, the movement of which brings it into motion. But doing it in the program is much more convenient, because all elements can be created immediately in the program without wasting extra materials, you can also import any image created in another program, or simply a scanned element created by hand from classic materials such as cardboard and paper. Adobe Animate works with a system of layers and symbols for ease of animation. Symbols can be divided into individual layers, and each symbol can contain several others. Each symbol has its own timeline (Img. 3).

This extensive system allows you to work in detail with each individual element and with the complete object. If we consider it on the example of the character's head, then the head will be one symbol inside which the eyes, nose,

mouth, and eyebrows are placed. And each of these symbols can contain frames with variations of these elements. For example, different positions of mouth and so on (Img. 4). There is also a pivot by the location of which you can control the rotation (Img. 6).

In order to smoothly move an object from point A to point B, the program has options for creating intermediate frames between two positions. Classical interpolation is needed to create the soft character's movement. Point A and point B in this case will be keyframes (Img. 5, Img. 6).

Interpolation greatly simplifies the animation process; without this option, all frames would have to be created manually. However, if you need to view the object from different sides, each view must be drawn manually. Interpolation only moves the object in a two-dimensional plane. And it's quite enough for the cutout animation style.
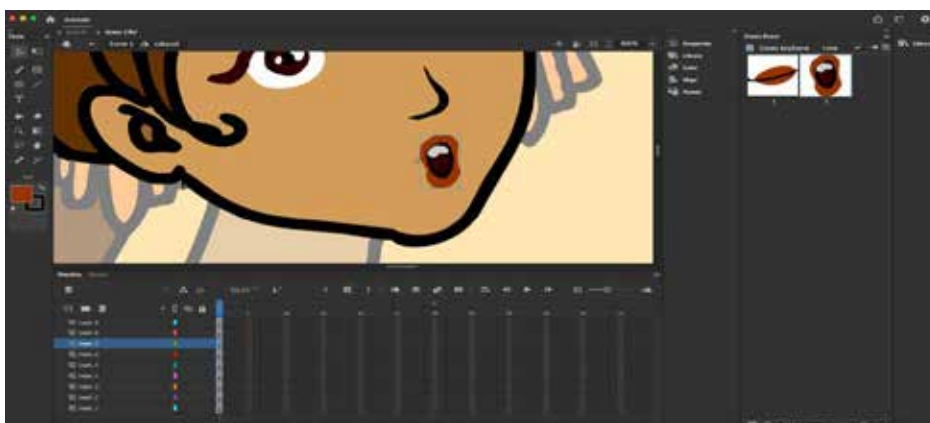

Image 3. Symbols inside the symbol

Image 4. Collection of images inside the symbol

Image 5. Interpolation between two keyframes

Image 6. Displacing of the object

CONCLUSION

The Adobe Animate program has the necessary tools to quickly create cut-out animation in it. The program has a number of tools that help create the necessary elements and set them in motion. To control all elements and conveniently move the necessary group of elements, there is a system of layers and symbols, for rotation of elements we use the pivot fixation point. And of course, the program has a timeline where you can manipulate frames.

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АНОТАЦІЯ

Петрушевська Х. Специфіка дизайну Cut-out анімації в програмі Adobe Animate.

Анімація з вирізаними об'єктами – простий і найстаріший вид анімації, що нерозривно пов'язаний з китайським театром тіней. Це варіант анімації «стоп-моушн», який використовує вирізки або плоскі частини для зображення персонажів, реквізиту та тла. На відміну від інших видів анімації, що випливають зі «стоп-моушн» та мають об'єм, наприклад ляльки, у вирізаних об'єктах усе є плоским і створює враження 2D. Як і в усіх підвидів «стоп-моушн», персонаж анімується кадр за кадром. Першим використанням анімації з вирізаними об'єктами в кіно вважається короткометражний фільм 1906 року. Принаймні, це перший збережений запис, який у нас є. Безмовний фільм відомий як «Жартівливі фази веселих облич» і належить британському режисеру Джеймсу Стюарту Блектону. З розвитком комп'ютерних технологій цей тип анімації отримав нове життя. Незважаючи на свою довгу історію, анімація з вирізаними об'єктами не втратила своєї актуальності й активно використовується в анімаційних студіях по всьому світі. Робити її в програмі набагато зручніше, оскільки всі елементи можна створити безпосередньо в програмі, без витрати додаткових матеріалів. Ви також можете імпортувати будь-яке зображення, створене в іншій програмі, або просто зісканований елемент, створений вручну з класичних матеріалів, таких як картон і папір. Adobe Animate працює із системою шарів і символів для зручності анімації. Символи можна розбити на окремі шари, і кожен символ може містити кілька інших. У кожного символу є власна лінія часу. Ця обширна система дозволяє детально працювати з кожним окремим елементом і з повним об'єктом.

Мета – дослідити історичний розвиток анімації з вирізаними об'єктами; визначити специфічні особливості анімації з вирізаними об'єктами у програмі Adobe Animate.

Методологія. У статті використовуються традиційні наукові методи історичного аналізу, порівняльного аналізу, метод системно-структурного аналізу.

Результати. Був вивчений історичний розвиток анімації з вирізаними об'єктами, розкриті специфічні особливості сучасної анімації з вирізаними об'єктами у програмі Adobe Animate.

Наукова новизна. Розглянуто принцип роботи програми Adobe Animate з анімацією з вирізаними об'єктами.

Практичне значення. Цей матеріал може бути використаний у культурно-освітньому процесі під час навчання графічних дизайнерів.

Ключові слова: дизайн, Adobe Animate, cut-out, графіка, ілюстрація, анімація.

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