ANALYSIS OF THE EFFECTIVENESS OF THE ANIMATION CLIP WITH 3D GRAPHICS COMPARED TO 2D GRAPHICS

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The topic of the study is relevant in the light of the intense growth of 3D-animation. Today it is one of the most popular visual presentation formats. It includes 3D media, marketing media, web media, outsourcing media, and mobile media. It also includes the ability to incorporate various effects, such as body and lip movement, which can enhance the spectacle for viewers. In addition to attracting viewers, three-dimensional animations can enhance your business. They help showcase different products with elegance and depth. This benefits the entire firm, in addition to promoting the company's specific product.

The purpose of this study is to examine the use of 3D graphics in animated commercials and compare its effectiveness with the use of 2D graphics. Also the topic aims to study the advantages and disadvantages of using 3D graphics in the creation of animated commercials, as well as to assess how suitable the use of 3D graphics for a particular task or target audience.

Animation design is effective for several reasons: animation design can capture and hold the viewer's attention. With its use of motion, color, and sound, animation design can effectively grab the viewer's attention and create an immersive experience.

Animation design is an effective communication tool. It can simplify complex ideas and convey them in a more engaging and understandable way. It can also help to explain abstract concepts and make them more relatable to the viewer.

Animation design can be more memorable than other forms of visual communication. Its use of motion, sound, and vibrant colors can create a lasting impression on the viewer's mind, making it more likely to be remembered.

Animation design is a versatile medium that can be used in a wide range of contexts, including advertising, entertainment, education, and training. It can be used to create engaging and informative videos, explainer videos, and product demos.

Animation design can help to establish a brand identity. With its ability to create unique and memorable characters and visuals, animation design can help to build brand recognition and loyalty.

Overall, animation design is effective in engaging viewers, communicating ideas, and creating a memorable impression. Its versatility and ability to create a unique and recognizable brand identity make it an increasingly popular choice for businesses and organizations in various industries.

2D animation is based on operating within a two-dimensional plane with x and y axes. Initially, it was done by sequencing individual illustrations, each slightly different from the previous one, in rapid succession to create an effect of life-like motion. Nowadays, 2D animation is made partially or completely using graphic animation software like Adobe After Effects allowing animators to make videos in weeks instead of months [1].

3D animation uses an additional dimension, which adds depth to the viewer's perception. It is computer-generated animation, which is done by building 3D models of objects and manipulating them in a three-dimensional digital setting with the help of animation software (Picture1).

Pic. 1 Difference between 2D and 3D

There are several reasons why 3D graphics in animation can be more effective than 2D graphics:

Realism: 3D graphics can create a more realistic representation of objects and environments. With its use of three-dimensional modeling, lighting, and textures, 3D graphics can create a more immersive experience for the viewer, which can enhance their engagement with the animation.

Depth: 3D graphics can create a sense of depth that is not possible with 2D graphics. With its use of perspective and shading, 3D graphics can create a more lifelike representation of objects and environments, which can make the animation more visually appealing and interesting.

Flexibility: 3D graphics offer greater flexibility in terms of camera movements and angles. With its use of virtual cameras, 3D graphics can create more dynamic shots and movements that can enhance the storytelling and engagement of the animation.

Interactivity: 3D graphics can enable greater interactivity with the viewer. With its use of real-time rendering and interactive elements, 3D graphics can create a more engaging and immersive experience for the viewer, allowing them to interact with the animation and explore it in greater detail.

Innovation: 3D graphics offer greater opportunities for innovation and creativity. With its use of advanced technology and techniques, 3D graphics can push the boundaries of what is possible in animation and create unique and memorable experiences for the viewer [2].

3D graphics can be more effective than 2D graphics in animation due to their ability to create a more immersive, visually appealing, and interactive experience for the viewer, as well as their greater flexibility and opportunities for innovation. However, it's important to note that both 2D and 3D graphics can be effective in different contexts and for different purposes, and the choice of which to use will depend on the specific needs and goals of the animation project.

Analyzing the effectiveness of an animation clip with 3D graphics can involve various metrics and factors, including audience engagement, message delivery, and return on investment. Here are some key aspects that can be analyzed:

Audience engagement: One of the primary goals of an animation clip with 3D graphics is to capture and retain the audience's attention. Metrics such as views, likes, shares, and comments on the animation clip can indicate the level of engagement and interest generated by the animation. Our brain processes visuals much faster than texts, which leads to a high retention rate of the videos and images we see daily. With 3D animation (as well as with 2D), you can create amazing visual content increasing your reach and driving more traffic to your website. The effects of volume and motion used in 3D graphics will help your consumers understand the product better and increase your chances for sales.

Audience engagement is a critical factor in measuring the effectiveness of an animation clip with 3D graphics. It refers to the level of interest, attention, and interaction generated by the animation among its intended audience. Here are some ways to analyze audience engagement:

Table 1 2D vs 3D animation for business and advertising

Advantages of 2D animation	Advantages of 3D animation
Faster to produce for short and simple content Thanks to animation software like After Effects or Toon Boom, 2D animation has become much quicker (vector animation for short videos). And it doesn't need such powerful animation OS as 3D.	**Realistic images and characters** Modern 3D animation makes it possible to produce impressive videos, where what you see looks very realistic.
More cost-effective If you are looking to create a series of short videos, manuals, or explainers for social networks, opt for 2D – you will get attractive visual content to showcase your product or service in the best light within a relatively low-cost budget.	**Wow-effects and dynamics** If you need to attract your viewer's attention to the features of your product or service and make a memorable advertising commercial, 3D will create the "wow-factor" you need. It is also much more suitable for demonstrating complex movements (dancing, fighting, object transformations, etc.).
Story-oriented If you have the budget to create a stylish artistic piece with an emphasis on the story, 2D will be your best choice. It conveys the elements of style and the details of the story better than 3D, which focuses on the camera effects.	**Reuse possibilities** 3D animation is perfect for brand-building, as it allows to reuse the once created character in an unlimited number of 3D animation projects, which will save your time and money in the long run.
	Cost-effectiveness for long movies 3D animation requires a time-consuming pre-production stage (modeling, setting up the scenes) but the production itself happens really fast. Overall, it is a more budget-friendly solution for long computer-generated animation movies.

Views: The number of views is the most basic metric to measure the audience's engagement. It indicates how many people have watched the animation clip. However, it is important to note that views alone may not accurately reflect the level of engagement since some viewers may click on the video but quickly exit without watching it.

Likes and comments: Likes and comments are strong indicators of engagement, as they show that the audience has interacted with the animation and wants to engage further. A high number of likes and positive comments can indicate that the animation has resonated with the audience.

Shares: When viewers share the animation clip on social media or other platforms, it indicates that they found the content interesting or valuable enough to recommend it to others. Shares can help to increase the reach of the animation and generate more engagement.

Retention rate: The retention rate measures the percentage of viewers who watch the animation clip from start to finish. A high retention rate indicates that the animation is engaging enough to hold the audience's attention throughout its duration.

Click-through rate: The click-through rate measures the percentage of viewers who take action after watching the animation, such as visiting a website or making a purchase. A high click-through rate indicates that the animation has motivated the audience to take action.

Analyzing audience engagement can help to assess the effectiveness of an animation clip with 3D graphics in capturing and retaining the audience's attention. By understanding how the audience interacts with the animation, designers can identify strengths and weaknesses and optimize future projects to increase engagement [3].

Message delivery: The animation clip should effectively communicate the intended message or idea to the audience. Analyzing the clarity and effectiveness of the message delivery can involve reviewing feedback from the audience, conducting surveys, or analyzing the impact on the client's brand awareness or sales. Marketing managers know how challenging it is to attract a customer's attention to your product among a multitude of competitors' offers. 3D product animation allows you to make eye-catching dynamic videos that will ensure brand recognition. You can appeal to your audience by immersing them in the magic of interior design, illustrating a complex technology, or helping them understand vital medical solutions [4].

Technical quality: The animation clip's technical quality can affect the audience's perception of the animation's overall effectiveness. Analyzing factors such as the animation's visual appeal, coherence, and sound quality can indicate the level of technical expertise demonstrated in the project. Technical quality refers to the overall technical standards and production values of an animation clip with 3D graphics. This aspect is essential in measuring the effectiveness of the animation since it influences how the audience perceives the animation's quality and credibility. Here are some key aspects of technical quality that can be analyzed:

Visual appeal: The visual appeal of an animation clip with 3D graphics is an essential aspect of technical quality. It refers to the overall aesthetics of the animation, including the quality of modeling, texturing, lighting, and animation. Analyzing the visual appeal can involve examining the animation's overall design, color palette, and composition.

Coherence: Coherence refers to how well the different elements of the animation clip fit together to form a cohesive whole. It involves analyzing how well the animation's design, sound, and animation come together to convey the intended message. A coherent animation clip can enhance the audience's understanding of the message and make it more memorable [5].

Sound quality: Sound quality is an essential aspect of technical quality, and it involves analyzing the quality of sound effects, voiceovers, and music. High-quality sound design can enhance the overall impact of the animation clip and make it more engaging and immersive.

Technical expertise: Technical expertise involves assessing the skills and capabilities of the designers in producing an animation clip with 3D graphics. Analyzing technical expertise can involve examining the quality of the animation's rigging, lighting, texturing, and rendering. A high level of technical expertise can increase the animation clip's credibility and make it more visually appealing. analyzing the technical quality of an animation clip with 3D graphics can provide valuable insights into its effectiveness. By understanding the animation's overall aesthetic, coherence, sound design, technical expertise, and creativity, designers can identify areas for improvement and optimize future projects.

Creativity: Creativity refers to how innovative and original the animation clip is in its approach to storytelling, visual design, and animation. Analyzing creativity can involve examining how well the animation clip stands out in a crowded field and how well it connects with the audience's emotions and imagination.

The animation clip's effectiveness can also be measured by the recognition it receives within the industry. Awards, nominations, or invitations to industry events can indicate that the animation has achieved a high level of quality and creativity.

The effectiveness of an animation clip with 3D graphics can be assessed by analyzing various factors, including audience engagement, message delivery, technical quality, and industry recognition.

Overall, the use of 3D graphics in animation design can enhance the effectiveness and engagement of an animation clip, making it a valuable tool for graphic design studios looking to expand their service offerings and showcase their skills.

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ОӘЖ 712.01

САЯБАҚ АЙМАҚТАРЫ ЕГДЕ ЖАСТАҒЫ АДАМДАРҒА АРНАЛҒАН ДЕМАЛЫС ОРНЫ РЕТІНДЕ

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Қаладағы және оның айналасындағы табиғат күн сайын ауыр сынақтан өтеді. Қалалар өнеркәсіптің, құрылыстың, энергетиканың, көлік парктерінің, халықтың шоғырлану орны бола отырып, ауаның, жер үсті және жер асты суларының, топырақтың антропогендік ластану көздері болып табылады. Оларды өз аумағына және айналасына газ тәрізді, сұйық және қатты заттардың көп мөлшерін шашатын жанартаулармен салыстыруға болады. Қала қоршаған кеңістікпен зат пен энергияны белсенді түрде алмасады [1].

Саябақ аймақтары көміртектің, яғни климаттың өзгеруінің қозғаушы күшінің, зиянды ластануын азайтады. Саябақтар денсаулық сақтаудың кейбір негізгі мәселелерін азайтады. Сондай-ақ саябақ аймақтарының пайдасынан мыналарды атап өтуге болады:

- ыстықтан құтқарады;
- су тасқынынан құтқарады;
- ауаны тазартады.

Саябақ аймақтары адам ағзасының қалыпты физиологиялық қызметін барынша қамтамасыз ете алады, оның физикалық және моральдық күштерін қалпына келтіруге жәрдемдесетін негізгі экологиялық таза аумақтар болып табылады [2]. Жоғары қысымды, инсультті болдырмау үшін егде жастағы адамдар үшін моральдық демалу және тыныш орта маңызды. Жоғарыда айтылған мәліметтерге сүйене отырып, егдежастағы адамдардың демалысы үшін саябақ аймақтарын құру тамаша шешім болып табылады.

4.   Саябақ аймақмарының артықшылығы

Саябақ аймақтары қала тұрғындарының денсаулығына, әсіресе егде жастағы адамдарға жағымды әсер етеді. Таза ауа, күн сәулесі физикалық белсенділікпен бірге күшті иммунитет, сергектік пен жақсы көңіл-күй береді.Сондай-ақ, саябақтар – бұл адамдар бос уақыттарын өткізуге, қаланың қарбаласынан демалуға және жай ғана табиғаттан ләззат алуға болатын орын [3]. Артықшылықтар тізіміне келесі ақпаратты да қосуға болады:

- Қарт адамдар уақыт өткізетін, араласатын және қызығушылық клубтарын құратын орын пайда болады;
- Таза ауа, табиғат денсаулықты жақсартады, яғни иммунитетті көтереді және өмір сүру деңгейін арттырады;
- Егде жастағы адамдар үшін мәдени-демалыс қызметтеріне қол жетімділігі;
- Егде жастағы адамдар басқа адамдармен бөлісе алатын сүйікті ісіне пайда болады.