

Impact of VR virtual reality technology on traditional video advertising production

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Abstract: Impact of VR virtual reality technology on traditional video advertising production is studied in this paper. At present, this attempt of video advertising is slowly beginning. For fast-moving consumer goods, if the Internet coverage reaches a certain range, advertisers will naturally choose Internet media with a lower cost per thousand people to launch. For young people, the proportion of clothing and beverage industries will be increasing. The total time that everyone spends on media is relatively constant. Hence, we consider the proper combination with the VR model. The efficiency of the designed model is also validated.

1. Introduction

Video advertising generally refers to the new media advertising business with digital video as the main form, mainly including traditional video advertising and mobile video advertising. Online video advertising can be more accurate and effective in the positioning of the target audience, and there are text and interactive content while doing video advertising. From the perspective of video ads alone, it may only take 30 seconds, but this is only the starting point to attract attention. After seeing this advertisement and attracting attention, users can click on other relevant advertisement links in depth, and may watch relevant content for 30 minutes.

At present, this attempt of video advertising is slowly beginning. For fast-moving consumer goods, if the Internet coverage reaches a certain range, advertisers will naturally choose Internet media with a lower cost per thousand people to launch. For young people, the proportion of clothing and beverage industries will be increasing. The total time that everyone spends on media is relatively constant. Once the Internet becomes the main carrier of consumption for young groups, it will inevitably affect the allocation of the advertising budget by advertisers.

Therefore, the attraction of the Internet will be higher and higher for advertisers of products targeting young groups. A video stream is an unstructured linear data stream. In the process of analyzing and applying video data, such as retrieving and reusing a video stream, it is necessary to first divide the video stream into segments with independent semantic information, that is, segmentation, also called segmentation. The analysis, organization and application of video data all need to be based on video segmentation. Therefore, video segmentation has a fundamental position and important characteristics in the research of video database and video processing. In the experiment, it can be found that the variance of discontinuous frame difference shows strong regularity in the process of gradual lens conversion, which provides the author with an idea: first,

through the rough selection, some candidate gradient areas are obtained; The general variance characteristics of continuous frame differences are used to further determine whether these candidate areas are indeed gradient areas, and try to locate the start and end positions of the gradient areas. In the table 1, the core models are demonstrated.

Table 1: The Core Models of Advertising

Model	Details
Filter effects and plug-in application technology	Filter effects can not only enrich the artistic processing of advertising film, but also improve the quality and effect of advertising picture. In addition to the standard filters that come with AE, we can also install third-party filters (plug-ins) as needed to add special effects.
Motion image tracking technology	Position, rotation, position and rotation, affine corners and perspective corners can be tracked in different ways in AE. In the "Timeline" window, select the layer to be tracked, execute the "Animate/Track" command, and open the "Tracking Preview" window Tracking Control Parameter Settings dialog box.
Advertising screen stabilization technology	Motion stability is achieved by first analyzing the starting position of the feature point and the starting angle relative to other points, then analyzing and calculating the position and angle of the feature of subsequent frames, and then adding key frames to the anchor and angle attributes of the layer.

Online video advertising is a new hot spot or incremental point of Internet advertising. It is different from traditional Internet advertising and can do things that traditional TV advertising cannot. TV advertisements are still only one-way transmission, with very few animations and FLASH, but Internet video advertisements can be two-way, which can be done more abundantly, and can save a lot in cost and cycle. Hence, in the next sections, we will be focused on the discussions on the impact of VR virtual reality technology on traditional video advertising production.

2. Literature Review

Table 2: The General Steps Presented

Step	Details
Preliminary preparation	The three sound players simultaneously send sound signals to the sound recorder. The sound recorder has two functions, the first is that it can record the sound from the sound player at the same time. WMV is the most common streaming media format on the Internet. It was launched by Microsoft. This format has the smallest rest under the same video definition which plays fine, especially in IE.
Video capture	In this paper, the relevant materials collected by the digital camera are transmitted to the computer. Observe and analyze the material, understand the content of the material, analyze its possible effect through editing, and then establish the image system that can be achieved in consciousness; The collected materials can often stimulate creative inspiration, which can significantly promote the adjustment of ideas, and can make the most reasonable application of materials; Moreover, the defects of existing materials can be fully revealed, so that the insufficient materials can be shot in time. The editing of video media is an important link to improve the quality of video works. By editing the captured and compressed video material, the video is more appealing and expressive. Digital video processing is a computer nonlinear editing technology based on traditional video editing.
Post-production compositing	The typical non-linear editing process is roughly as follows: open the editing program, create a video editing project, import the digitized video material into the project window, select the material, set the expansion method of the material on the editing track, and then call the editing software provided. Various means, such as editing, reordering, connecting materials, adding special effects, motion overlay, Chinese and English subtitles, etc.

The video generating methods are reviewed in this section. Adobe Premiere is a relatively popular digital video editing software. It has the function of selecting a variety of video formats and resolutions. It supports IEEE-1394 interface, as well as plug-in plug-ins and filters. The video is

clearer and has a higher compression rate. Digital video processing includes video capture, editing, compression output and other links. With the progress of the times and the improvement of people's living standards, cameras are gradually entering the family. Previous cameras were analog signals stored in the form of videotapes. DV refers to digital video camera, which was used by TV stations or professionals in the early days. At present, most DVS used in families are mini DVS. The volume of the cameras and video tapes is very small, and the image quality is good. They also have functions that analog machines do not have, such as the function of taking digital photos, stunt function, simple editing function, etc. In the table 2, the steps are presented with the detailed discussions.

We should have a deep understanding of screen size in 3D animation video production. As far as its ordinary scenes are concerned, a large screen can highlight the rich scenes at once. In the process of production, in order to then make the animation video have a picture sense, it is necessary to calculate the ray tracing algorithm for reflection and refraction. When editing 3D animation, we should pay attention to the frame clipping of the screen to avoid distracting the audience and causing discomfort. Pay attention to the quality of materials and textures, avoid using maps, and remember that there is no perfection of parallax value. For 3D animation video, it relies on the stereo display leaked by active or passive stereoscopic glasses, which allows one eye to see part of the image that the other eye should see, and this can approach the stereoscopic sense we want, and can reduce the parallax value to a certain extent, to avoid the use of high contrast images. According to the system of our mixing studio, there are three sound playback workstations, one sound recording workstation, and one picture playback workstation. Because the most commonly used sampling rate for digital audio is basically 8kHz, we lock the sound player and peripherals to the word sync. Since the mix recorded by the sound recorder is to be played synchronously with the final picture and has a very close relationship with the picture, we locked the recorder in Video Reference. The screen player must of course be locked in Video Reference. The above synchronization signals all come from a crystal oscillator of TG700, so it can be strictly guaranteed that all machines in the mixing studio system can play synchronously at the same position and at the same speed.

For obtaining the subline, listed 2 steps are essential.

(1) First, drag the scroll slider located in the editing window to the top of the editing window, then click the selection tool to adjust the state in the text box, and hold down the left mouse button when pulling down the text box, so that it is under the safe action box in the editing area. The top of the text box appears.

(2) First, drag the scroll slider in the editing window to the bottom, and click the selection tool to adjust the status of the text box. Press and hold the left mouse button while pulling down the text box, so that the bottom of the text box appears below the safe action box in the editing area, and then adjust the text up and down, and finally make the whole scrolling subtitle in a static state at the end, so the last scrolling subtitle text appears in the center of the editing window.

3. Designed Methodology

3.1. The Theoretical Advancement of VR Technology

Virtual reality or virtual environment technology is a high-tech practical technology driven by applications and involving many disciplines developed at the end of the twentieth century. It is developed on the basis of computer graphics, computer simulation technology, human-machine interface technology, multimedia technology and sensor technology. Graphics pioneer Any Ray Smith once said that "reality" is 80 million polygons per second, which means that a computer must be able to display many polygons on the screen and get a real image in real time.

A high-end PC can process seven million polygons per second while a dedicated graphics processing computer game station can process nearly 20 million polygons per second. In this context,

the emergence of the virtual reality technology has created a new opportunity for the improvement and innovation of the practical teaching model. Using virtual reality technology, it can not only display three-dimensional spatial information, but also provide general feedback information from various senses such as vision, hearing, touch and smell.

At the same time, it enables users to interact directly and naturally with various objects in the virtual environment, and participate in the development and change process of events in various ways, so as to obtain the greatest degree of freedom in controlling and operating the entire environment. The realization of virtual reality needs the support of both hardware and software. The hardware mainly includes data glove, 3D mouse, motion tracker, force feedback device, speech recognition and synthesis system and so on. There are many kinds of software, among which the Virtools development platform of Dassault is a more popular one at present.

It constructs interactive experience in a complete visual mode, and the open architecture supports the reading of a variety of the 3D file formats, making the application of real-time 3D technology more diverse and extensive from listed aspects.

(1) Collision detection, interference effect and associated motion, in the technologies of the mechanical virtual assembly and virtual layout of mechanical equipment, collision detection and interference effect are particularly important! Association motion reflects the linkage relationship between objects in the virtual environment. An efficient algorithm to solve the problem of completeness and uniqueness of collision detection, the research on associated motion in virtual environment is still blank.

(2) Online are standalone 3D model files with associated textures and optional lighting and sound. Similar to the clone technique, these online instances are referenced by the main VRML scene and wherever they are referenced, unnecessary downloads are avoided as much as possible. When designing NT, the complete model is divided into standard component parts so that the individual pre-defined components can be imported online. In this way, the NTM is assembled like a big jigsaw puzzle, with each element downloaded only once and then reused.

(3) Like artistic practice activities, virtual reality technology is also a process of symbolic construction and deconstruction of the meaning world. Through the media symbols such as perceptual colors, sounds, shapes, and pictures, the practical subjects of the real world and the virtual world are "linked" to further complete the communication and dissemination of meaning and information.

The sensor module uses the sensor devices of hearing, vision, touch and mechanics to make the computer correctly perceive the situation in the user's environment at that time and the user's experience perception from the virtual world environment; The input processor module correspondingly outputs the information received from the sensor module and then transmits it to the analog processor module; The analog processor module determines the state of the virtual world and controls the interaction and object action between users and computers. Interpolator animation is an animation formed by using interpolators to change objects. The user only needs to give a series of intermediate situations of the motion trajectory, and the browser automatically smoothes the transition of the object between these intermediate situations, so as to make the dynamic effect of the object changing according to the given route. In the process of development, our control of virtual objects is mainly in two aspects: controlling the time of dynamic objects and describing the way in which dynamic objects change, so that the avatar remains unchanged and the position of physical objects changes, which is applicable when there are few stereoscopic scenes in animation. Viewpoint animation is a viewpoint related animation generation method. VRMI. The viewpoint viewpoint node is provided to achieve the animation effect similar to that of changing the position and direction of the object by constantly changing the position and direction of the viewpoint. Its essence is to change the position of the surrounding scenery by changing the position of the avatar, which is suitable when there are many three-dimensional scenes in the animation. In the figure 1, the VR

structure is demonstrated for the sample analysis.



Figure 1: The VR Technology Model Sample

3.2. The Video Production Methodologies

In the movies and TV programs we watch, subtitles are used to modify the picture or convey information, especially rolling subtitles, which can more dynamically display the picture, highlight the theme and attract the attention of the audience. There are many methods and means of making rolling subtitles, so the screen forms of rolling subtitles are also varied. Video acquisition is to convert analog video signal into digital video signal that can be recognized by computer, or transfer digital video directly to computer, and store and play it out. High quality video signal source is the premise of high-quality acquisition, so the video signal to be collected should have high quality. Choosing professional DV format digital camera or broadcast digital camera for shooting activities can achieve better results. Users can open the subtitle designer through the New/Title command to create subtitles. The Premiere Pro subtitle designer provides 3 subtitle types: still, scrolling up and flying left. The subtitle effects produced by these three methods are that the subtitles are still on the screen, and the subtitles move up and to the left. Although the subtitle designer provides operations such as style, properties, and custom settings for subtitle settings, Premiere Pro has an obvious deficiency in subtitle production, that is, in the subtitle designer, the Chinese font name is not displayed in Chinese, which It caused a lot of core inconvenience to the production, and the method to solve the problem is described below.

(1) This is related to the amount of information in a single frame of picture. The larger the bit rate, the greater the amount of information stored in the picture, and the clearer the picture. The restored picture quality is better. But it's not that the bigger the bit rate, the better. As the bit rate increases, the amount of data will also increase, and the file capacity stored will also increase. The higher the bit rate, the more complete the details will be, but the ability of the naked eye to distinguish is limited, and many details cannot be distinguished, so an excessively high bit rate is unnecessary.

(2) Frame rate refers to the number of images played per second of a video. The standard frame rate for movies is 24 frames per second, above which the naked eye will see smooth video. The frame rate of 2D animation is 15 frames per second. The smaller the frame rate, the more stuck the video will be and the action will be inconsistent.

When we watch 3D animation videos, we will break the acquired habitual response, which is the root cause of discomfort in 3D. Although for the vast majority of people, the very sudden difference that this focus on fusion produces can be accommodated, so that a sense of depth can also be seen. Of course, there will be some people who are extremely sensitive to this and lose their way. However, if the 3D material is poorly edited, it will also make the audience have a different experience, and will feel the difference in the world experience, which will produce unexpected and sudden screen changes. Differences will also be very noticeable to all people. In the figure 2, the processing

framework is defined.

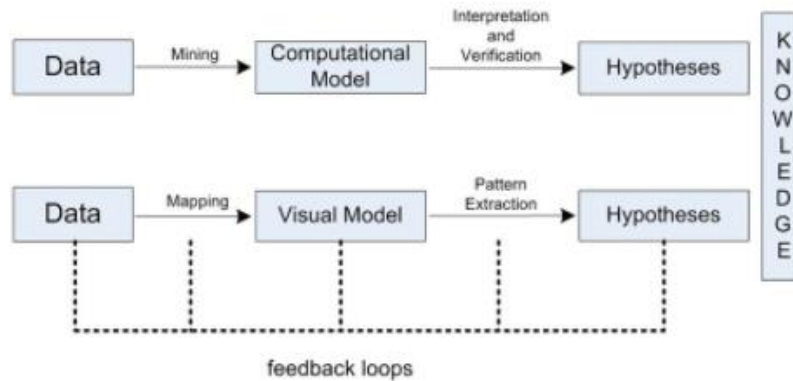


Figure 2: The Video Production Framework

The process by which we transfer video programs from the source device to the computer is called capture G. The essence of digital video capture is the process in which video data is transferred from the source device (usually a video camera) to the computer's hard drive through a capture card. G can capture video through s s option for video captureG at the same time, you can use the s interval s in the s option panel s to set the capture interval; select the capture device from the s source s list; select the file format for saving the captured video from the s format s list G Click s Stop capturing s or press [ESc 9 to stop capturing G Split by scene J function to automatically root. After digital video editing, it needs to be compressed and output, and finally become a video work. Compression output is an extremely important link that affects video clarity. Reduce the amount of the data required by the image through compression, save storage space, and improve access speed. Under the same bit rate, choosing a clearer encoding method is our goal. Premiere is an open editing platform that supports most codec standard formats by installing other compression codec plug-ins. Different video compression formats have different application goals and different video resolutions.

In order to prevent a series of troubles due to the long duration of the specific timeline of the video, the video plan is usually divided into multiple sequences, numbered and named respectively, and each sequence is corresponding to the collected materials, and then the materials are classified and managed in the form of folders. Each sequence is set, and a new sequence is set so that each sub sequence can be combined in turn to form a whole sequence. The video is divided into "title", "middle" and "tail" sequence parts, and then each of them is made. For the "title", it is necessary to completely import the whole material it needs, and then place the material on the timeline in order according to the script set by the shot, watch the program window repeatedly to determine the effect of the video, and reasonably apply the panel tools to make the material collected on the timeline be reasonably edited and continuously modified, so that the effect can achieve a more ideal goal.

3.3. The Video Advertising Production

Now web queries are very popular, such as Yahoo and Google search engines, but they all require users to enter certain or vague keywords to search. When the ambiguity is too small, the desired content may not be found; when the ambiguity is too big time. The juice computer may query too much irrelevant content, it is not easy to achieve real-time, waste a lot of time, and the effect is not good. Hence, with the integration of the web information of the video aspects, the model will be enhanced. The combination of video advertising and animation advertising is to use AE and other post-production special effects synthesis software. Based on the principle of the perfect integration of the production technology and creative art, the video advertising and animation advertising materials are organically combined, and also some special effects and animation effects are added.

Combination advertisements that are more exciting and attract the attention of the audience. Since the sudden change occurs between two consecutive frames, the difference between adjacent frames is relatively large, so a high threshold can be used to detect sudden changes. The value is relatively small compared to the sudden change, so a low threshold can be used to determine the start of the gradient shot and the model will be considered as the optimal solution. With the deepening and development of toilet technology. The virtual situation created by animation is getting closer and closer to reality. It has already got rid of the shackles of the two-dimensional plane in the early stage of development, and has begun to deepen into three-dimensional and multi-dimensional.

The exaggerated and virtual characteristics of animation itself can be subtly accepted by consumers without any analysis. Implanting these characteristics of animation itself into video advertisements can indirectly narrow the distance between consumers' imagination and reality. The natural digestion power of some consumers to animation is precisely the accurate product information that the advertisements are intended to convey with moderate exaggeration. So as to realize the ideal value of animation in advertising works. When a large number of live video advertisements involve historical time clues or image descriptions at a certain time in the future, they often use complex technical means such as grand scenery making and montage editing to explain the time background. Its effect is nothing more than to introduce consumers into specific space-time situations. In the limited length of time of the video advertising, it is difficult for consumers to enter the country through the shaping of these seconds. But in contrast, animation advertising. Animation advertising in the time dimension of disorder, compared with the real video advertising required the reasonable application of time clues and it has great flexibility and freedom. For several common gradient types, such as dissolving, fading, etc., when only one of the gradient types appears, it will appear as a regular single peak or double peak on the contour of discontinuous frame difference. You can use the sliding window to then maximize the frame difference. Value method mocks to roughly select possible gradient regions.

We are trying to achieve the listed goals.

(1) Online video advertising adopts advanced digital and multimedia technology. Fusion of video, audio, images, animation and text in one. Compared with the simple expression forms of animation and text in traditional online advertisements, there are more elements such as video and audio, and the expressiveness is more vivid, the forms are diverse, the carrier volume is large, and the attached content of the page, that is, the information content, is larger.

(2) Given the concept of service, online video advertising is not as easy to trigger the audience's negative emotions as traditional advertising. As a service tool, online video advertising can establish a personalized relationship between advertisers and consumers, and the advertising effect has changed from simply emphasizing attracting consumers' eyeballs and psychological share in the past to seeking consumers' lifelong trust.

(3) Online targeted advertising is an important node in the development of online media. Advertisers can save a lot of advertising budget, but they can find the most accurate potential consumer groups. With targeted advertising, focus marketing can play a big role on the online platform. The target audience defined by the advertiser and the media strategy formulated can be accurately implemented. For the audience, they can also avoid the bombing of irrelevant advertising information and get a good online life experience.

4. Simulation and Experiment

This section gives the simulation for the proposed model. In the paper, the author defines the subjective semantic information of an image as: an image gets its semantics through human observation and human subjective judgment. For example: A observes the video image and obtains much information from it, such as which objects, behaviors, events and their mutual positional

relationship and logical relationship in the video. Determine which objects are important and which are secondary. Which events in the whole ten video streams are of interest to us, which refers to the semantic results of human subjective judgments as the figure 3.

1	2	1
2	4	2
1	2	1

1	1	1
2	4	2
1	1	1

Figure 3: The Ideas of the Simulation Aspects

In the experiment, some programs of different domestic TV stations were selected for testing. After calculation and statistics, most of the TV advertisements were correctly detected. In the table 3, the detecting accuracy under different noise level is demonstrated.

Table 3: The Statistical Simulation Results of Accuracy under Different Noise Levels

Noise level	65%	75%	85%	95%	96%	97%	98%
Accuracy (%)	86.77	88.95	90.58	97.33	97.92	98.86	98.96

Video websites can stand on a higher commanding heights, surpass the limitations of the communication media, provide video users with more forms and more content of all-round multimedia services, and meet the various needs of customers and the packaging of major events. Based on this, for customers and major events, we will make every effort to create a three-dimensional space promotion and communication with video broadcast as the main, supplemented by text and pictures, and activities as the line. In the figure 4, the enhanced structure is demonstrated for the systematic referring.



Figure 4: The Enhanced Video Processing Pipeline

5. Conclusions

This paper studies the impact of VR virtual reality technology on traditional video advertising production. Online video advertising is not only a bulletin board for advertising information, but also a customer service center. Online video advertising is highly interactive and sensory. It can better present the company's products, services and brands to customers, which helps to improve customer experience and is more conducive to the construction of an honest environment. In the future, we will apply the proposed model into different scenarios.

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