Aesthetics of smartphone dynamic screen discussion and Research

Hsuan Jan Kao, Li-Chieh Chen

Tatung University, Taiwan

0157

The Asian Conference on Media and Mass Communication 2013

Official Conference Proceedings 2013

Abstract

Smart mobile device, the mmarket is along with rich and varied applications, no matter the screen presentation is the boot animation or the application's dynamic design, are all the elements used to attract the public, except its convenience, the interface and screen design of smart mobile devices are all smart mobile device users expected. Therefore, collected variety of dynamic content and design style in the smart mobile devices and categorized in accordance according to modern art for derivative developed the art of Smart mobile devices category, to increase the appreciation of art mobility and mobile convenience, so audience can enjoy the kinetic art anytime, anywhere.

Keywords: smart mobile devices, kinetic art

1. Introduction

With the smart mobile device market demand, the development of this area increasingly fast and sophisticated, the smart mobile device screen display is also more and more rich and lively, therefore, this study will directly focus on smart mobile device desktop animations and motion pictures of applications for a depth discussion, analysis the aesthetic style of its screen presentation.

Through this study to understand aesthetic style of smart mobile device screen presentation, and then sort out the development of the artistic style of mobile platforms, making the public can through mobile platform to appreciate animated artistic which belong to smartphone and experience new forms of artistic styles.

2. Literature

This content of project will study motion pictures present aesthetics of mobile phone, from the experimental animation art and art-related network of knowledge and theoretical concepts by studying the sort of new art style to create alternative visual arts experiences, use animation art and the art of network spiritual content as a comprehension and practice, because of its spiritual connotation to develop an unique artistic argument. Wherefore, some research and understanding of both theoretical, thereby, extending the research and creation of a new direction and look forward to a new generation of artistic style, showing the distinctive art form, and derivative concept of the modern smart mobile device screen present aesthetics. The following section will discuss literature as a preparatory study:

2.1 Animation Research

After years of production experiences, animators produces many animated terminology and rules to facilitate communication in order to facilitate the drawing and animation has a better performance results. Computer technology in the computer animation art performance, whether it is visual of   performing and body language or techniques, it still based on traditional animation of performance principles as the fundamental basis, such as:
1. Compression and stretching: Defined in the operation time period, the object shape distortion, deformation produced by the movement called compression and stretching.
2. Preparatory action: An action before the start of action is called preparatory action.

3. Layout performances: Animations show the overall structure of multiple actions constitute a complete performance by camera shots, several shots constituted by a number of animation structure, the clear and simple expression is the basic requirements of the animation framework, so that it can make the story clear and make the viewer focus attention.

4. Continuous actuations and posture positioning: In addition to the first major motion animation between the screen to complete the outer, continuous action in progress by successive frames concatenation operation until the entire operation is completed.

5. Follow and the action with overlapping: When the animation role of the action just stopped, some parts of the action will continue to be, this one is called to follow; in a continuous movement, the action of the time difference between each other, during which the action of the differences caused by the alternating occurred and the end, called overlap.

6. Start or end point of movement slower speed: At the start or end point of movement slower speed, adjust the gap time between key frames to achieve more effect of accurate motion.

7. Arc Action: Animated character movement dynamics is rarely a single line, mostly with the curvature, such as hands back and forth and so on; make dynamic to the natural, the action will be adopted on the arc-shaped movements.

8. Secondary action: A complete actions include major actions and secondary actions; in action, secondary action by the main action of traction, but also the main action foil finish.

9. Timings: Time rhythm is the most important element of a moving, any movement of action is associated with the time control.

10. Exaggerated: To make the content more sense of joy and a sense of humor, or to emphasize the emotional ups and downs, often used to exaggerated manifestation of the changing role of the audience noted that moderate use exaggerated expressions, is necessary, but if all use, will lose exaggerated dramatic effect.

11. Solid depicting: Animation design needs to have a solid drawing ability to convey the character's characteristics.

12. Attractive: Is designed to create action to attract the audience's attention, so that the audience have the desire to watch the scene design and the role of modeling should be avoided too simple or too complex settings, in order to avoid difficult or impossible to understand. In general, the asymmetry more appealing eyes, to make people pay attention to the purpose. (Wu Peifen, 2002)

These rules make the animation 12 animation have a good basis in the 3D computer animation also follows such a rule, presented to the audience a rich and interesting

exaggerated expressiveness, it seems that this is also more animated expressions can be accepted by the audience, but also in the world of the animation continues popular. Therefore, the following will focus on several elements of the animation for analysis.

2.1.1 The research of animated character

3D animation of the protagonist is the whole soul and spirit of animation , through role performances, to express the author to tell the story . Heroism prevailed in the United States , children and adolescents want to own as " Superman " like a super ability to combat villains , or like " Batman " has many other cool feature to repel the bad guys . Hero's animation emerge accidentally , it is a comic art and American culture collision results. Americans are advocating personal struggles and focus on the priority the protection of personal interest, especially in the thirties of the economic impact of the Great Depression and World War II cases, people will "savior " type superhero as a symbol of hope and strength , so the comic protagonists have also invested to defend the nation against war stories ("The United States first among superhero factory ", nd), the animation works such as Superman (Superman) (Fig 1.) , Batman (Bat man) (Fig 2.) , spider-Man (Spider man) (Fig 3.) and so on .... Role morphology , they are robust and majestic, while Superman and Batman is equipped with a cloak to symbolize having the ability to fly , or the shape of the wings deliberately imitating animals to demonstrate its extraordinary capabilities, and performance places the color red, blue as the basic color , just in line with the American flag , which shows American heroism in the animated form is emphasized on the obvious.
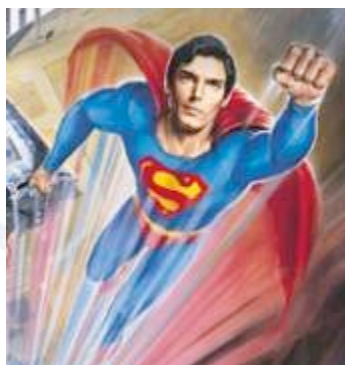

Fig 1, 《Superman》, Warner Bros. From
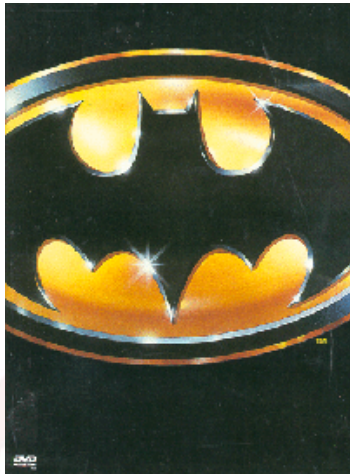(http://comic.chinese.com/Article/Class4/Class31/200407/218.html)

Fig 2.《Batman》, Tim Burton, 1989. From (http://www.batmantas.com/)

Fig 3.《Spiderman》, Sony Image work, 2002. From
(http://spiderman.sonypictures.com/)

There are also Japanese animation like the so-called "heroes" roles, such as Ultraman (Ultraman) (Figure 4) is a Japanese hero's representative, their appearance no special gender differences, only red and silver stripes with mainly symbolic I wish the people of traditional Japanese amulets and good luck color. In addition, the Japanese hero emphasize public sex (teamwork together to solve problems), such as the habit of a five-man team as a symbol of the heroic (Figure 5), of which the most notable is the color of clothing: the main leaders of the red, pink for women color, the other three pairs of members, mostly yellow, blue, black, and different colors represent different is the division of labor. In addition to the spiritual mission, many "deformation", "fit" of the robot is also very special, which is the traditional Japanese folk tales, religious description of the various monsters are closely related (Chen Zhongwei, 2004)

Fig 4.《Ultraman》. From (http://www.e-muse.com.tw/2003/umforever/)

Fig 5.《Ultra 5 Team》. From
(http://www.southcn.com/cartoon/make/dmzt/200404010645.htm)

An impressive 3D animation, in addition to including a good story, a clear rhythm of the music and post-production editing, the role of which is the shape and movement to grasp the essence of the work, and this is also not rely solely on the essence of mystery software applications that come to their senses, you must constantly observe things, and for the successful example of doing a deep study. Animation because it is in a different culture presents different style, such as the Japanese cartoon is to convey ideas, based on a wide variety of stories, characters with enough verve performance-based, while the United States after a long animation development to form distinct characteristics, such as exaggerated character, action smooth, colorful and attention to detail characterize, to render the screen mobility.

2.1.2 The Research of Animation Scenes

Role play scenario is a stage , and the role of the styles are often closely related to the overall style of the need for the setting to create the most suitable role in a stage show . Therefore, the study of the style scene , types and their differences. Real life each different object itself has its own different surface properties, such as the transparency

of glass , plaster non- reflective matte metallic reflective material and so determine an object's visual texture . Therefore, 3D software tool textures (Texture Mapping), by scanning in real photo images , or other ways to hand out a 2D plane produced digital images, attached to the stereoscopic 3D production environment objects on the object to simulate the inherent material properties and design , this method can reduce the maximum benefits of computer rendering computation time , and with minimal graphics and computing resources for maximum effect of realistic materials . Created by this Act out of the surface of the object attributes include object color, surface degree of reflection , material and transparency as well as environment maps and other accessories created by the 3D texture , creating a lot of convincing imaginary world . (Michael O'Rourke, 1997)

In the animation of the virtual world among all roles and objects remain with the real environment in general, need lighting
Objects with shadows do for visual conditions, and the lighting is also used to create the overall image is the main context and tone setting tools and techniques. With the general difference is that traditional animation in the 3D scene as long as computing power permits, according to their situations creators can set the number of lights needed to establish numerous and can also freely change the intensity of the light and shadows and colors to create a wish to achieve the visual effect of the scene.

2.1.3 The Research of Animation effects

Animation effects are to increase the audience 's visual stimulation, as computer technology advances, powerful animation effects , animation style is to make even more powerful weapon. 3D computer animation and special effects to produce synthesis is realistic performance characteristics of digital effects , unlike traditional 2D animation and film shooting in hand-drawn graphics mask (Mask) or hazardous blasting site to produce synthesis and effects . Computer animation software can be used in molecular techniques such as blasting , clouds , water and other natural effect of a virtual reality environment or substituted Dangerous effects process , and parameter modification generated by different effects , using digital copy function will produce the effect of repeated use . With the advances in digital tools have been developed animation synthesis technology simply by tracing the path of the camera position and orientation with light tones with real scene can create a fully integrated and vivid images. (Kerlow, 2000) so that the film is from the real environment imagination to create a virtual space, and in the world of 3D computer animation is created by imagination to the real world , forming a unique immersive art of computer

animation .

2.1.4 Special style of 3D animation research

Special style 3D animation is less popular type of animation style is quite worthy of study type, this type of animation is more abstract, often a reflection of the author's own heart, representing the realization of personal style is also my objectives creative style type. Therefore, this type of animation for a more complete studies to understand the underlying meaning of style and spirit. Realistic narrative structure structure such images animated character by giving a clear image of the personality and to express animated stories and content, in the choice of subject matter often social or political issues and events based, and there is a clear narrative structure and theme that allows the audience to convey the correct message is received images and content.

As I graduated from the Institute of Creation " Media Illusion II " series , with animation to express my views on the media . After the lifting of martial law in Taiwan , liberal news media , a variety of media increasingly flourish, repeated daily amount of information in people 's lives, like a labyrinth of construct is difficult to escape. Therefore, the creation is based on the performance of " media" itself and the media spread "political ", " erotic ", " violence " as the main content , the manifestation of the creative diversion Escher 's " Staircase " (House of stairs) works to construct 3D illusion of space , and finally completed by the TV broadcast " Media Illusion II" series of installations (Fig 6.) . (High uproar , 2006) the use of 3D software to create unlimited possibilities of special animated film , belongs to the author than the psychological catharsis, an abstract expression of non- narrative structure , with semi-abstract , abstract patterns , images and sound to communicate with each other while the issue of fabric freehand expression and vitality performance . This type of animation theme mainly feel the spirit of self-representation and psychological based, any external reality can be under deconstruction of creators to become fragmented and disordered dreams general picture of the structure , giving viewers more broad self- thinking and imagination. Most experimental work with more emphasis on this language to convey .

Fig 6. Author's exhibition photo in Fine Arts Museum of Taipei.

Fig 7. 《The media fantasy II》series, pornographic media animated content

2.2 Internet technology and aesthetics of digital art Research

Contemporary art forms, with high-tech help, we want to imagine how to create, take him how to present, the role of technology in supporting the idea of just realized, luckily we do not have to pick up the brush desperately to put the picture is good, or put a transparent slide continuously drawn a picture, and transformed into animation. Like software engineers, design a variety of plug-ins can simply put the photos into

various types of watercolor painting. Another example is the development of 3D technology, can simulate the very real creatures, but still lacks meaning of life. Really want to worry about is how to show their creativity. Therefore, the authors insist on the use of computer technology to complete animation, so I chose to 3D animation creation software as the main tool, hoping to bring cold Software vitality, creating interesting and illusory visual experience.

Digital artwork constituent elements only data and code. Ye would Rui (2003) mentioned that "All through the computer by the creation of works of art, regardless of the appearance is how to hustle and dazzling, in essence, are just 0 and 1, the interpretation of digital information and interpretation." This feature makes art into a data processing and code rearrange to form a special way, bit is the basic unit composed of works, the artist manipulated between 0 and 1 in the finished work. Digital artwork patterns essence is not fixed entities substance, just a bunch of data, information and code, through digital tools and storage formats exist, with different screens and other digital interface and presentation, it also has dematerialization and liquefied characteristics.

Therefore, in the context of modern technology, we have to fill the more humanistic ideas, cultural spirit, paid to a real human life, irrigation culture, rather than the empty body, such as the zombie-like. Technology is only a representation, surface luster, aggressive people synonymous with vanity, we should be able to master the technology, giving it a human life, it is alive with ideas from the Heart looking for real artistic aesthetic.

Thereby discussion and thought the impact of the Internet on artistic creation and possible space. Learn how to use computer software and hardware on the network to do on the space creation. Dominant element in the creation of a Text (text), Random (random), Illusion (illusion), Sound (sound), Interactive (Interactive), Performance (network collective action). From the Internet, digital video, video conferencing, distance learning, virtual reality, to the use of virtual characters and real interaction between actors, but also the entire process of artistic creation must understand, and to find out the network from which combining art and animation art developmental.

2.3 The research of experimental animation

Experimental study of animation aesthetics, the popularity of civilians due to technological and easier to operate features allow contemporary artists in the creation

of more than a variety of new creative tools, media covered the use of the video, computers, machinery, electronics, light, sound, biochemical physical media such as technology or combination of complex interdisciplinary art space resulting in the development of traditional art spaces open up another new field of aesthetics. The result has been a training and research, to make works more of its technology base theory rooted more creative derivative works.

Contemporary animation art creation, use of computer technology and software developed, computer animation has become the main mode of animation art, commercial architecture in Hollywood production and publicity, 3D animation film succeeded in penetrating the mass market, has also aroused animation creators to follow, resulting in the majority of the style of animation into the established pattern. Different from the mainstream movies and more for today's technological developments and market value of the reaction, experimental animation often presented encompasses the creators awareness, social and cultural impact of environmental dynamics point of view, through the vision of experimental animation, always bring more element of creative elements and new ideas.

Relative to mainstream animation, experimental animation is relatively non-mainstream definitions come. For experimental animation, Li Daoming (1997) has pointed out: "The so-called" experimental animation, "in fact can be said to contain two different types of animation" experiment ": a formal" experiments "; Second, the connotation of" experimental . "so-called" experimental "in the history of animation down may not necessarily be" avant garde "— — ahead of the times (mainstream) front in animation history are talking about" experimental animation. "It is, and mainstream" cartoon animation "after doing relatively the results obtained. positioning sometimes conversion occurs."

Changes in the trend of the times, the digital image gradually formed the mainstream market, while computer animation has become increasingly market attention, many audio visual presentation, such as special effects, video, virtual reality ... so no need to perform computer animation. Today, animation is no longer considered entertainment subculture, particularly since creation and dissemination of technology innovation, the public has the animation penetration and impact resistance has surpassed traditional and contemporary cultural phenomena and become part of the art.

Period, animation art in the avant-garde trend of the development of the image generated under a considerable change, until today, although the authoring tool is

different, but the continuation of the spirit of experimentation and innovation breakthroughs beyond the reality is still quite attractive, even moment looked back the development of the whole animation, experimental animation of non-mainstream animated art often better to lead the transformation of form and content, and contains a more extensive experimental and Humanity. Different from the mainstream movies and more for today's technological developments and market value of the reaction, experimental animation often presented encompasses the creators awareness, social and cultural impact of environmental dynamics point of view, through the vision of experimental animation, always bring more element of creative elements and new ideas. (Chen Wei-lun, 2004)

In addition, because the spirit of experimental animation with independent producers, often contains individual artist's unique style, ideas, experimental techniques and innovative visual presentation, often brings viewers a unique visual experience, but also so often reverse to bring commercial animation special creative thinking in order to attract viewer attention, so exemplified in many commercials and often can get a glimpse of MV clips.

In the experiment experimental animation media is a very important concept. Clarence (Norman McLaren) use of the limited resources and innovative approach created a considerable number of animated films, he does not use directly through the camera manufacturer in the image on the film, the use of hand-painted film, abrasion and exposure experimental way to make video directly presented in the film, and even in the movie soundtrack to cause abrasion on artificial sound (Peggy Chiao, 2001),

while in 1952 the creation of "Neighbours" (1952) (Fig 8.), the norman · Michaela

Lun also use a real innovative animation techniques to shoot the actor as objects, visually showing quite strange strange feelings, so motion picture arts more full of surprises and unexpected nature.

Fig 8. （ Norman McLaren ）， 1952 ， 《 Neighbours 》 （ from http://64.26.166.43/resources/how.php?show&5 ）

Also in the seven years of Indian origin O Iraqi faction Tyre repair · (Ishu Patel) is not subject to media restrictions, according to a media different characteristics, so that the viewer in a different animation to appreciate his innovation in different media the bold use, such as works of "Paradise" (Fig 9.) and Iran to send Tyre repair · put the usual special effects used in the "light" for the King boldly break through use, the use of cardboard stab holes presented light transmittance changes to convey the image of the magnificent palace paradise, and compare the applied color style hand-painted techniques to render the dazzling bright enthusiasm of the natural world, the expression means stunning.
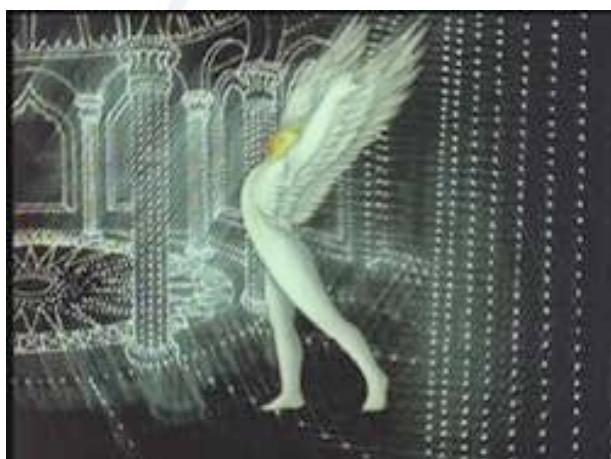

Fig 9. （ Ishu Patel ）， 1984 ，《Paradise》（ from DVD ：《NFB Film Works》）

Moreover, some animation experiments are limited due to materials developed beautiful accident ─ Zagreb (Zagreb) animation creator of the material would have been limited because of animation developed the so-called "limited animation" (reduced animation) creative way in five years this revolutionary technique O later became modern experimental cinema commercials precursor (Huang Yushan, 1997). The creators of animation but due to the lack of material resources raises its boldly explore new ideas, new ways to express themselves with the idea, totally free from material fetters and norms breakthrough pioneered by my new pattern, the creators of these animations original and animation art experimental spirit brought endless supply of new vitality, which facilitate technological progress and contemporary animation, it is a very important reflection.

3. The research methods and expected results

Collect a variety animated works of mobile device operating systems on the market, and according to modern art style, type, and so do the classification factions to establish dynamic screen smartphone style database to analyze and discuss the content and mobile phone screens exterior design of the physical relevance.

Through the study of the theory and aesthetics, and finally put into practice, to make the final experimental results show, the survey reviewed the overall creation, do final adjustments, the whole process is the creation of works, so far-reaching artistic omnipresent. In recent years, the rapid development of computer technology, smart phones, especially in the cloud technology for science and technology, humanities and creative aspects of the design of such three dazzling variety of effects, immersive virtual world presentation, are rapidly, by leaps and bounds, like Jurassic Park, the Matrix, one of the mouse, to a pure virtual 3D animation toy Story, Shrek, Final Fantasy ... and so on, are proving digital design rich and varied.

Digital media research and development and design, application, our lives have been slowly bring huge changes, but in this major change under the humanistic morality but slowly be ignored, or even soon to be forgotten! So I would like to Taiwanese unique artistic color culture on Taiwanese art cultural characteristics, trends create belongs to Taiwanese style 3D animation, caught out of its essence and in Taiwan, the resources available to develop part of our digital multimedia art, with various digital media design applications that will carry forward into our international arts and humanities.

Living in the technologically advanced 21st century, we seem not be separated easily by technology have brought to us, so at the last chapter we will explore the digital era, as a part of it, how do we use technology to create art works that belongs to us and establish the art style our generation should have. Therefore, the author through digital media of smart mobile device to create the illusion of an imaginary space, develop infinite possibilities of images. Through this research, the author deriving new type of art style, make artistic development more diversified and rich, so that art appreciation will have much properties of action convenient.

4. References

Zhong-Wei Chen (2004)：《Japanese animations & comics words globalization and

fans culture》. Taipei: Tangshan Publishing Co., Ltd.

Yu-Shan Huang write（1997）.《The explore of animation movies》. Taipei: Yuan-Liou Publishing Co., Ltd.

Kai-Yiu Chan《A study of 3D computer animation, visual language and aesthetics》, National Taiwan University of art, Art Journal.

林珮淳、奚岳隆,《從民族性探討日本與美國動畫風格之差異國立台灣藝術大學多媒體動畫藝術研究所》,臺灣藝術大學,藝術學報。
》, National Taiwan University of art, Art Journal.

Michael O'Rourke write、Jia Ming Dai translate（1997）.《3D computer animation learning methods》.Taipei: Arts and crafts books Publishing Co., Ltd.

Kerlow write（2000）"The Art of 3D Computer Animation and Imaging". Wiley Publisher. USA.

Tao-Ming Li（1997）:《The explore of animation movies》, pp.50-58. Taipei: Yuan-Liou Publishing Co., Ltd.

Pei Fen Wu (2002):《The explore with visual language constructs of computer animation in 3D cartoon characters animation exercise time》. Master Thesis. Taipei: Taiwan University of Arts Institute of Multimedia and Animation Arts.

Gin Rui Ye (2003):《Digital Language @ the Digital Age》, p.30. Taipei: ©Art and Collection by iScreen Corporation.

Hsuan-Jan Kao（2006）《The media fantasy II》fantasy space series discussion and creation,Taiwan University of Arts Institute of Multimedia and Animation Arts, Master Thesis.