THE NATURE OF HYBRID ANIMATION IN MALAYSIAN ANIMATION INDUSTRY

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Abstract:

Hybrid animation is widely used by the creative industry in Malaysia and all around the world. The aim of this research is to study deeply the practice of hybrid animation in Malaysia in order to provide clear and sufficient explanations on the advantages and disadvantages of hybrid animation in classroom. The advancement of related technology causes an evolution in animation films and television series in Malaysia. Technically, the trend has various impacts on animation industry especially in development and quality areas. The commercials and games industry, for examples, also use hybrid animation in order to gain the best quality and to achieve the international standards in animation industry.

Keywords:

Hybrid Animation, Creative Industry, Technology, Animation, Evolution.

Introduction

Hybrid animation is a technique that combines different media to produce an animation either in a form of a film or television series. In 1997, Bronu Edera suggested that full-length animated films had entered into "a new 'Golden Age'" (Edera, 93), with directors working in "new

modes of cinema", including what called "films in mixed media" (ibid.,14), otherwise often described as "mixed" or "hybrid" animation. (S.Litten, F., 2001).

The other name for hybrid animation is mix animation. The hybrid animation is not new to the film world because it has been used in the 1900s which is The Enchanted Drawing film. The director of The Enchanted Drawing film is J. Stuart Blackton. He makes a hybrid animation film with combination of a silent film and stop-motion animation. He is considered as the Father American animation. Since then the popularity of the silent animation with combination of animated sequence continues to grow. In 1920s and 1930s there is Max Fleischer's cartoon, Koko the Clown interacted with the real world. This cartoon has been popular until it has inspired Walt Disney. So Walt Disney creates a series of animated cartoons in 1920s; The Alice Comedies. The cartoon series is about a little girl name Alice who has been recorded from live action and an animated cat name Julius, has an adventure in an animated landscape.

There are producers and filmmakers besides Walt Disney from different countries who use the hybrid animation in their film such as Willis O'Brien and Ray Harryhausen films in United States, and Aleksandr Ptushko, Karel Zeman and Jan Svankmajer in Eastern Europe. Meanwhile in 1935, Solviet film use hybrid animation when the only character was not animated which is Gulliver himself. Then in 1940s, You Ought to Be in Pictures directed by Friz Freleng and produced by Warner Bros makes characters interacting with live-action people. In 1945s, there is famous scene in Achors Aweigh film when the Gene Kelly dance with an animated Jerry Mouse. The development and growth of hybrid animation in other countries shows the continuity with many experiments in order to gain the best quality of film until it reaches the Malaysian animation film.

The main focus of this research is to bring out the outstanding about hybrid animation because there is still insufficient medium of the importance for hybrid animation in Malaysia. Next is the definition of hybrid animation and shortly brief about evolution, then move on to advantages and disadvantage sof hybrid animation in animation. This research also will review one of Malaysia hybrid animation movie which is War the World: Goliath including benefits of hybrid animation in Malaysia Animation film.

Literature Review
According to Cambridge Dictionary there are two versions of definition of hybrid and animation. Firstly, United Kingdom version, hybrid as a mixture of two very different things. Animation is the moving images created from drawings, models, etc. that are photographed or created by computer. Meanwhile in Unites States version, hybrid is anything that is a mixture of two or more things. Animation is also the process by which an animated movie, especially a cartoon, is made from drawings done by hand or by a computer. According to Oxford Dictionary, hybrid means a thing made by combining two different elements and animation means the technique of photographing successive drawing or positions of puppets or models to create an illusion of movement when the film is shown as a sequence. In conclusion, hybrid animation is combination more than one medium used to produce an animation film or television series and it also known as films in mixed media. In 1977, Bronu Edera suggested that full-length animated films had entered into "a new 'Golden Age;" (Edera, 93), with directors working in 'new modes of cinema", including what is called "films in mixed media" (ibid.,14), otherwise often described as "mixed" or "hybrid" animation. (S. Litten, F., 2001).

If we look back at the evolution of animation, generally there is various medium experiment shave been conducted to develop animation industry. Starting with one medium such as traditional 2D hand-drawn animation, then stop-motion in the next line. Computer-generated Imagery (CGI) is being introduced to animation industry when computer technology evolves. Animation studios find hybrid animation as a new technique where combination of 2D hand-drawn animation with CGI. According to Schoonen, S. (2015), this is called hybrid animation where they combine 2D hand-drawn animate with CGI. The combination uses two media in animated film.

The revolution continues with fully CGI animated film even though hybrid animation is still in development. There are different tools for different media.

Advantages of Hybrid Animation
There are a few advantages of hybrid animation within a different medium for example when using 2D animation and CGI, the camera can be easily adjusted by panning and it can be used to handle large crowd scene as can be seen in the Mulan film (see Figure 1). According to O'Hailey, T. (2010), 3D crowds are rendered to match the 2D line style in Disney's *Hunchback of Notre Dame* and with the Hun charge in *Mulan*.

Figure 1: Disney's *Mulan*. The Palace Scene used 2D Animation Meanwhile Crowd Placement in Maya, 3D Fireworks, and Compositing Software to Create Hybrid Shot.
Source: Hybrid Animation Integrated 2d and 3d Assets book.

Other advantages of this technique are its application to animate the complex elements that are normally difficult to animate and also to resolve the difficult task such as draw on perspective, so the background are not needed to be redrawn when it is looked at from another point of view. In addition, this technique could save time by sharing art and asset. Combination technique of stop motion and CGI and visual effect also have a few of the advantages which is the world and scenery could expand and complete the impossible shot that are unable to take by normal techniques. As can be seen in Figure 2, *Coraline* (2009) is not a fully stop motion but it is a hybrid animation; combination stop motion, CGI and visual effect.

**Figure 2:** *Coraline*. **This Is Combination Stop Motion, CGI and Visual Effect.**

Source: Google image

According to the shot of Coraline film the character of the story is being printed by a 3D printing system and every part of puppet is separated. So, it makes the work easy because it could exchange the different facial expressions when needed.

Disadvantages of Hybrid Animation

Every technique has negative and positive sides including hybrid animation. The disadvantages of hybrid animation are experimentation will need to take place and every aspect need to be considered such as multiple software, drawing method, combination of the media, and post-processing effects need to compare to see which pipeline is most easily achieved. There are 12 basic principles of animation, despite motion capture could capture every movement of life performance for animation unfortunately some of the principles need to work out by animators. According to Schoonen, S. (2015), when motion is captured, some principles will have to be worked upon by the animators themselves.

In hybrid animation, there is additional costs that cause extra expenses during the process to produce animation film. Besides, it will be difficult for small team which their skill are not good. Every medium requires a different pipeline and difficult to match the timing frame by frame. Pegging process cannot be perfect enough when 3D and 2D contact and the method is difficult. This is a large registration issue. (See Figure 3).
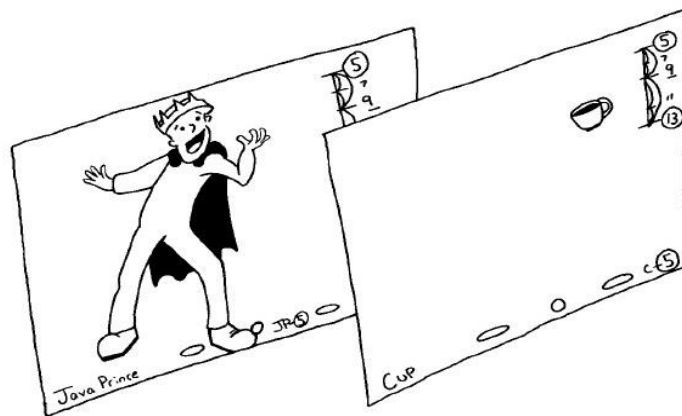
Figure 3: Example Of 2D Element Registering from Hybrid Animation Integrated 2D and 3D Assets Book

Furthermore, different medium has a different format of image, so pipeline test needs to check image format, so it can maintain frame rate and image size in production. According to O'Hailey, T. (2010), pipeline test needs to check that image formats to maintain a constant frame rate and image size throughout the production.

Hybrid Animation in Malaysia Animation Film

The evolution of animation film in Malaysia is increasing in creative industry. The chronology of Malaysia animation history is a bit late than global and Asia country, but today Malaysian animation industry has progressed well in the global animation industry. *War of The World: Goliath* (2012) is one of example Malaysian hybrid animation production where this film was produced by Studio Climb, Malaysia. They make a collaboration with TRIPOD Entertainment (Malaysia), Imaginex (Malaysia), Sun Min Image Pictures (Korea) and Epoch Ink (US) to produce this film.

War of the World: Goliath is an animation movie style. It is combination 2D animation and CG. It is shown where the human character is 2D animation meanwhile the robot character is using CG. Joe Pearson is the director of *War of The World: Goliath* and he is a big fan of 2D animation and regarding to the interview conducted by Ju-osh M. to Joe Pearson, he said that he wants to keep it alive whenever he has the opportunity, Ju-osh, M. (2014),

> *"Pearson: I like your analogy. A lot of the choice to do a hybrid of CG and 2D was the simply due to budget. I'm not a fan of super realistic mo-capped CG characters (and the combie-like 'uncanny valley' effect) and our very modest budget couldn't sustain a fully animated CG character style like they used on the TMNT movies, so we opted to go with 2D chaaracters and use the CG for the mecha. Also, I'm a big fan of 2D animation and want to keep it alive whenever I have the opportunity."*

The process of producing *War of The World: Goliath* is a stereoscopic 3D film and has a 2D cel animated feature produced in natural layers like foreground, background, characters, props, vehicles and effects. Regarding to the rating in IMDb website where most people visit for movies rating and the rate of this film is 5.5 per 10 among 952 respondents (see Figure 4). It is still shown an innovation of Malaysia animation and the improvement of the animation technique.
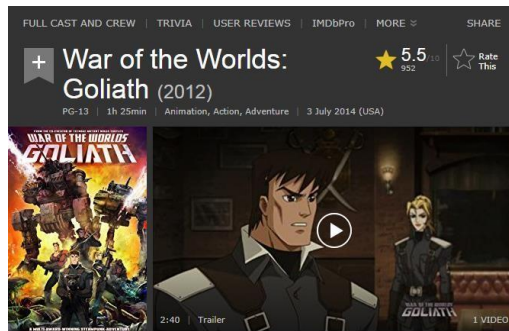
Figure 4: *War of the World: Goliath* **(2012), Pictures from IMDb Website Showing The Rating of Movie on The Up of The Right Side.**

Figure 5: *Keluang Man* **(1998), The First Hybrid Animation; Combination 2D and 3D Animation in Malaysia.**

Source: Google image

As can be seen in Figure 5, there was an animation series, *Keluang Man* (1998), produced by UAS Animation Studios (M) Sdn Bhd before *War of The World: Goliath* film released. The animation uses the same combination medium that is 2D and CGI unfortunately the animation discontinues because from 1997 to 1998 there was an economic crisis. They make character in 2D styles meanwhile the background in the story such as building in 3D styles. This series is not the first hybrid animation in Malaysian animation industry. As you can see in the both figure there are big gap and different of animation style and quality. This shows the development of animation in Malaysia industry regarding to the changing of technology and sharing of knowledge. Malaysian animators' early exposure to the right animation technique. According to Hassan Muthalib. (2013), with the tremendous technological advances and emerging platforms rapidly changing the media and communication landscape, animators now have a wide field of animation applications with which to be involved.

Benefits of Hybrid Animation in Malaysian Animation Film
This research explains the benefit of hybrid animation towards the Malaysian Animation film. The benefits of using hybrid animation as a method to produce animation film or series is Malaysia could produce a good and best quality of animation film, so it could fill in the demanding of international level thus it could support Malaysia economy through creative industry. Besides, this technique is a part of animation innovative and Malaysia could make an interaction with other country for animation collaboration. According to Hizral (2015), *perkembangan ini menunjukkan bahawa industry kreatif berpotensi menyumbang dan menjadikan ekonomi negara lebih dinamik.*

Hybrid animation is not limited to animation industry, but this method has been used and expanded in other section of creative industry such as advertising, mobile game, architecture, interactive comic, education courseware, virtual reality and 3D holograms. According to Hassan Muthalib. (2008), as new 2-D and 3-D software appear to allow faster and better animation to be created, content development moved from traditional areas of television animation and advertising, into areas such as web design, educational courseware, interactive comic, architecture, 3-D holograms, virtual reality and mobile games. Figure 6 shows the example of video commercial that use this technique is *Astro Beyond Commercial*.

Figure 6: Scene from Astro Beyond HD Commercial.

Source: Google image.

Methodology

The methodology is a description of the model chosen as a guideline for the study of hybrid animation in Malaysia. It will provide discussion and explanation on the basic concept in making films using hybrid animation and methods in using a combination different medium with examples of Malaysian hybrid animation film. The infographic poster (see Figure 7) shows the flows in the making of an animated movie. The poster was developed by the creatives at BETC Paris, a French advertising agency and was commissioned by Canal + to show their support for the film industry. The infographic starts with the Conception continue with Pre-Production, Production and lastly, Post-Production. The info is easy to understand and attractive design. It is using a simple color.
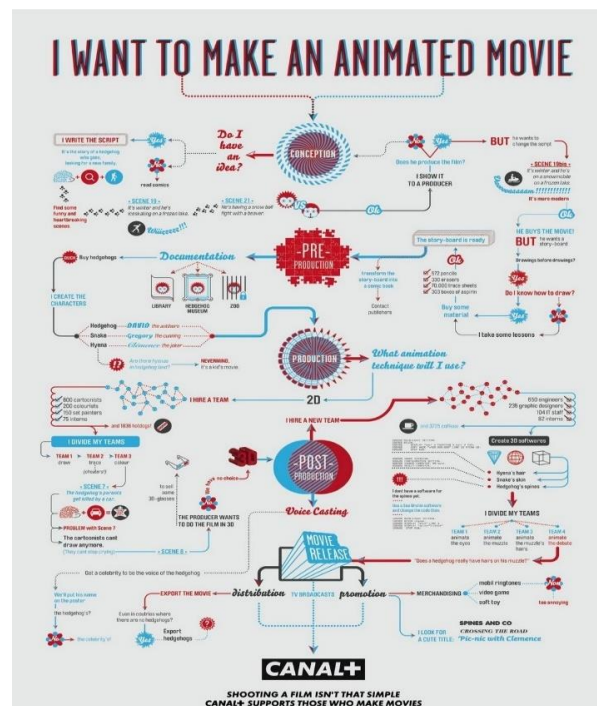

Figure 7: Infographic Poster by Euro RCSG

Source: Pinterest image

Medium: 2D Animation and 3D Animation

The combination of 2D animation and 3D animation is one of the media of hybrid animation. 2D animation is defined as creating characters, storyboards and background in two dimensional environments (see Figure 8). Meanwhile 3D animation is a manipulation of 3D models or objects that are carried out by using 3D software to be animating and it appears in three-dimensional space (see Figure 9). It can be rotated and moved like a real object. According to Kristin C. Au. (2014), 2D animation will consist of elements constructed within a 2D environment while 3D animations will consist of elements mostly constructed within 3D environment. Malaysia has produced a few of hybrid animation by using the combination 2D animation and 3D animation in one animation film or series. As can be seen in Figure 10, it is examples of hybrid animation; *Kacang* (2004) by Lensa Film. The character and environment are shown in a 3D animation and the expression of the character is animated in 2D animation.

Figure 8: Scene Bola Kampung In 2D Animation
Source: Google image

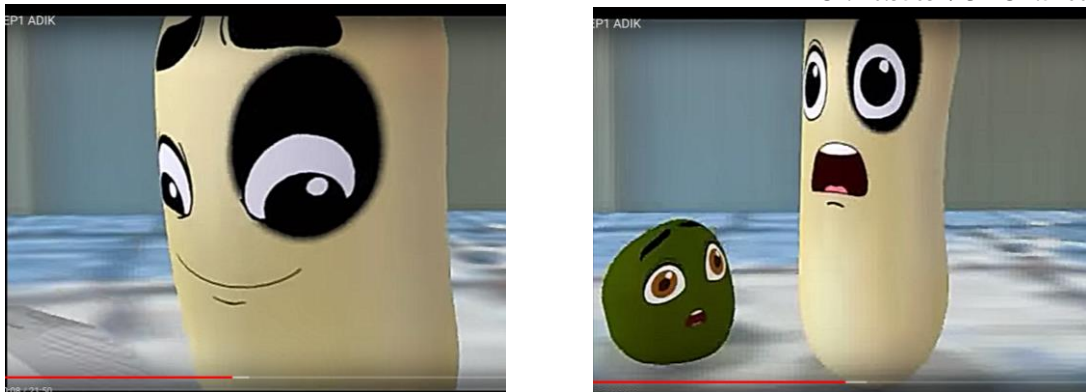**Figure 9: Scene Bola Kampung In 3D Animation**
Source: Google image

Figure 10: Scenes Of Kacang Animation

Source: Youtube

Next example that use the same technique is *Keluangman* (1998). As can be seen in Figure 11 clearly the character is 2D animation and the background was created in 3D. Malaysia is still new in using 3D animation as medium for animation film. But Malaysia has developed and improved the quality of animation by produce *War of the World: Goliath* (2012). This film shows robot and the building was created in 3D and the character was created in 2D. As time passe, animation in Malaysia has undergone many positive changes and the government has started to channel funds to broaden the industry. (Shaliza Dasuki at all, 2012).

Figure 11: Combination 2D Animation and 3D Animation in
Keluang Man and War of The World: Goliath

Source: Google Image

As can be seen in Figure 12, the flowchart is a sample of how the 2D animation leads the 3D animation. The flowchart is a sample from Iron Giant film whereby the 3D character gets onto 2D character's hand, when the hand lifted and how the 3D character reacts. Firstly, the flow starts with different sheet for different character. The first frame shows the Iron Giant in "2D animation" sheet while the small character in the second sheet; "2D stand in". then both of sheet will be scanned for combination. There are two flows direction after the frame has been combined. The explanation goes with the flows to Middle Resolution first, the combination frame will be 2D Image Plane and continue to make the small character in 3D animation. Then it divides to two paths. If the flow goes through the Middle Resolution, the frame will be printed then continue with the redo of 2D animation. Then the frame of Iron Giant will be scanbed to Full Resolution to make the frame in 2D style. If the small character makes a Full Resolution the character will be in 3D style. After that the 2D character and 3D character will be combined in one frame as a Final Image. If the sheet of Iron Giant direct to Full Resolution, the result still same as before but there is no redo of 2D animation during the process. This model is from Hybrid Animation Integrated 2D and 3D Assets Book by Tina O'Hailey, and it has been published in 2010. Figure 13 shows how the shading made in 3D from 2D images.

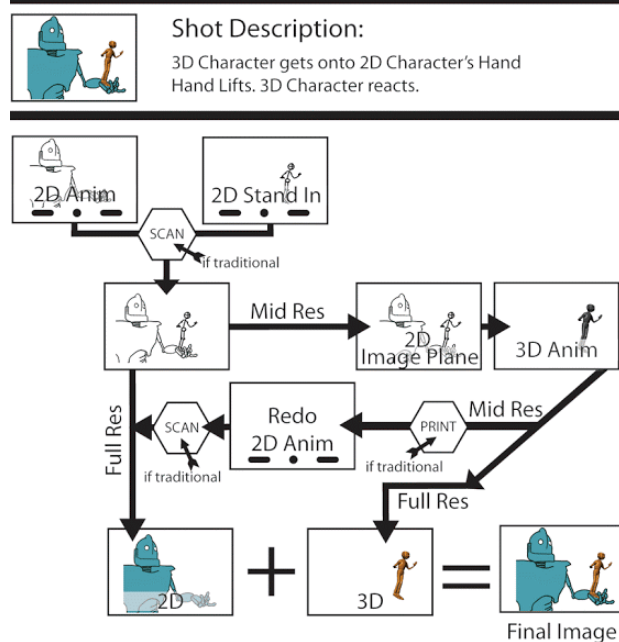**Figure 12: 2D Lead 3D Flowchart**

Source: Hybrid Animation Integrated 2D and 3D Assets book
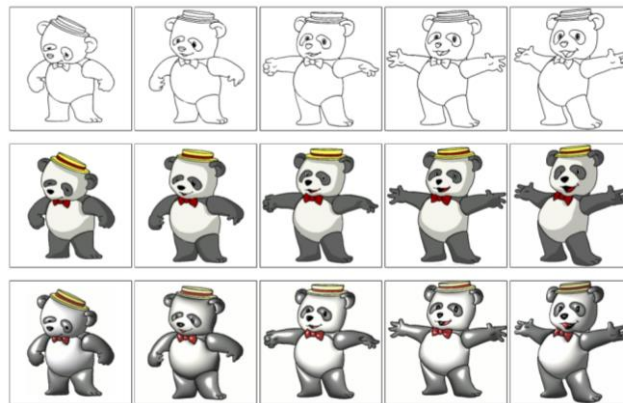
Figure 13: Shading in 3D from 2D Images

Source: An image-based shading pipeline for 2D animation pdf

Medium: Live-action and 3D Animation

Next medium is a combination live-action and 3D animation. Live-action is the people or animals are being filmed by using form cinematography or videography. According to WonChan Sohn (2013), the category of live-action and animated film could be defined by whether the film was photographed through a real lens, but the current issue is that CGI, which is taking up more and more space in a film, looks real. There have many applications for making 3D animation such as 3D's max, Maya, Blender and Unity. Figure 13 shows the scene of making a live-action shot for *Mantera* film. This is example of Malaysia film, it is using a combination medium of live-action and 3D animation. As you can see Figure 14 is a shot of the scene fighting use a medium of 3D animation with effect. The film was direct by Aliyar Ali Kutty and Miza Mohamad and it was release in 2012.
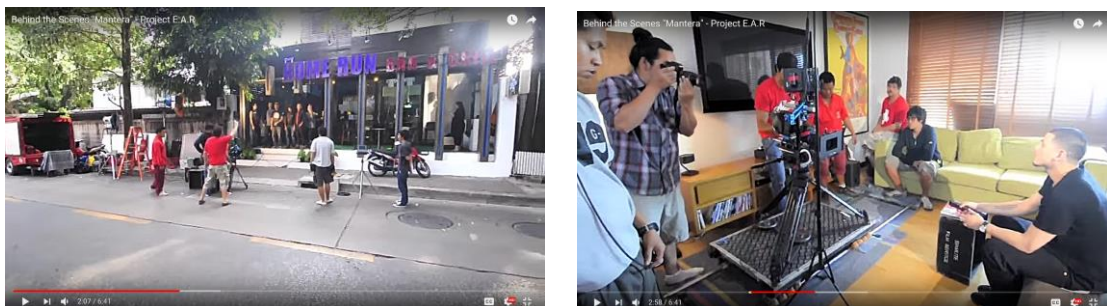

Figure 13: Shot of Making Live-Action for *Mantera* Film
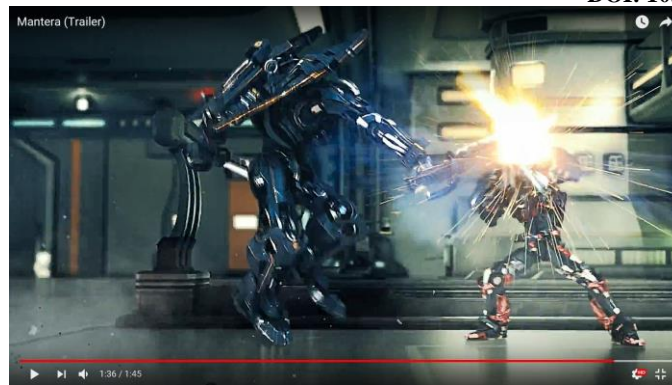
Source: Youtube

Figure 14: 3D Animation, Scene in *Mantera* Film

Source: Youtube

Figure 15 shows a hybrid video pipeline that being post in Upwork website. There are five phases hybrid video production. The first phase is Script. Video producer and scriptwriter will establish concept and write the script. Voiceover artist also need in this phase. The second phase is Storyboard and Design. Video producer, designer and art director needed for bringing the script to life by preparing the storyboard, character design, layout design and sound that will be used for film. The third phase is Live-Action Shooting. Equipment and prop need to be ready for shooting like green screen, makeup and hair, craft services, wardrobe, set and prop design etc. Crews involves in this phase is director, director of photography, production assistant and gaffer. Actor will be film on the set for every scene that state in the storyboard and script then it will continue with the fourth phase; Illustration and Animation. Process of 3D animation will be adding in the film that involves art director, animator, compositor and motion designer. The last phase is a Post-Animation. The outcome of live-action will be compile with the 3D animation in the editing process and sound effect and color grading also be adding. Editor, video producer, art director and creative director will be involved in this phase.
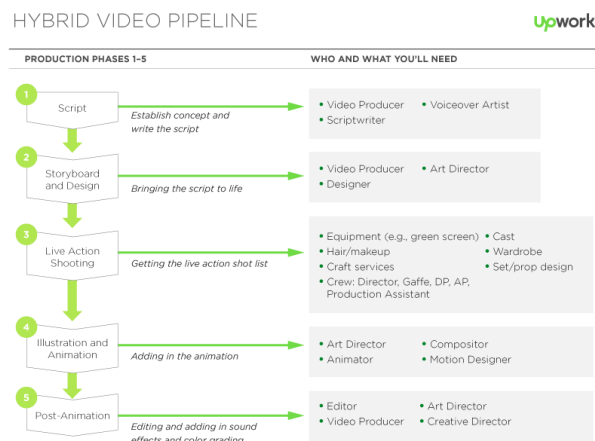

Figure 15: Hybrid Video Pipeline

Source: Youtube

Medium: Live-action and 2D Animation

Combination of live-action and 2D animation have a same method with combination of live-action and 3D animation but the difference is the medium and the process of 2D animation and 3D animation. 2D animation is created and edited using 2D software. It has many applications such as Flash animation, Toon Boom Harmony and Power Point animation. According to Jiang Tan (2016), 2D animation figures are created or edited on the computer using 2D bitmap graphic or created and edited using 2D vector graphic. The examples of Malaysian hybrid animation are *Mat Gelap* (1990) produced by ZHA Film Production. It is a first hybrid film in Malaysia using medium of live-action ad 2D animation. The first movie to combine live pictures and animated character was 'Mat Gelap, ZHA Production in 1990. (Sulaiman Sajilan at all, 2015)   The character was created in cartoon style by cartoonist Imuda. Figure 16 shows a scene where cartoonist Imuda interacts with 2D character.

Figure 16: Hybrid Video Pipeline

Source: Youtube

As can be seen in Figure 15, the combination medium of live-action and 2D animation also using the hybrid video pipeline for producing an animation. The five-phase production which is start with Script, Storyboard and Design, Live-Action Shooting, Illustration and Animation (2D animation) and the last is Post-Animation. On the script phase, the concept and script will be prepared, and it is involving producer, scriptwriter and voiceover artist. Then storyboard, character design, layout design and layout design will be produced in the Storyboard and Design phase. Video producer, art director and designer are involved in this phase. Then it is continues to the third phase Live-Action Shooting. A real actress or actor was filmed on set, afterwards the phase illustration and animation which is a 2D animated landscape and character will be added. Real actress or actor was filmed on set, afterwards a 2D animated landscape and character will be added in. The basic premise of the series was that a real actress was filmed on the set, and afterwards an animated landscape and characters would be added in. (Markstein, 2005) and (Tolijoki, 2018). Post-Animation where the compilation of live-action recording will be compiling with the 2D animation in the editing process. This phase will synchronize the sound effect and color grading with the video. So, the editor, video producer, art director and creative director are involved in this phase.

Data Collection and Analysis Method

After completing all data collection process, the literature studies and observation, we then focus on the related topics of this research. The data will be analysed for further action. We

will look into the data thoroughly to have a deeper understanding of the animation industry. Then the research model will be explained in the next section as a method to understand the main idea of this research. Then the conclusion of the research will discussed. Figure 17 is the outcome of the analysis method for this hybrid animation in Malaysian industry.
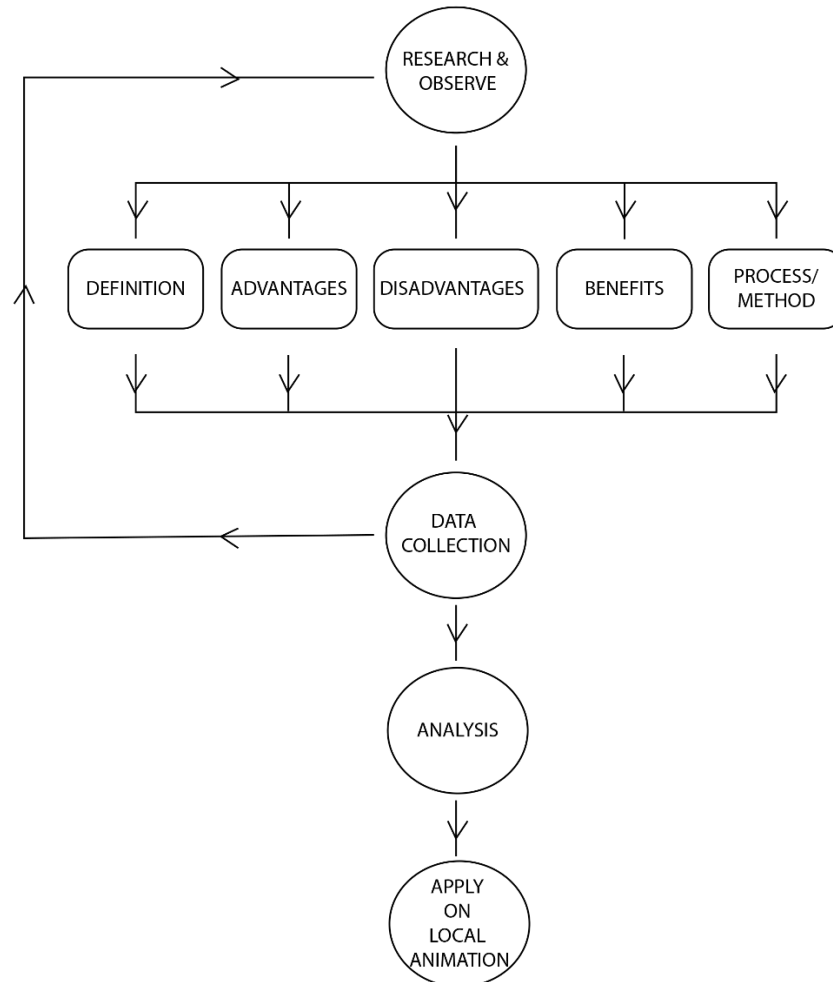

Figure 17: The Flow of Study Hybrid Animation in Malaysia.

Conclusion

As a conclusion, hybrid animation is an important form of artwork produced by a human creativity, latest technology and advanced techniques. The animation industry has the potential to generate huge income to the country if the key players in the industry make an effort to produce more animation films of better quality that are on par with the ones of Japan and America. We can see that animation industry plays important roles in animation films, commercials and industry. The introduction of social media such as TikTok and Youtube highlights the need for more and more animation as attractive contents.

Acknowledgement

Not forgotten to my colleagues at University Kuala Lumpur, University Malaysia Kelantan have also looked over my transcriptions and answered with unfailing patience numerous questions about the language and hands related to design and methodology, not only provided colour , high –res images of the manuscript overnight, but unexpectedly shared the invaluable information on the journal that he has been gathering for almost 1 year.

I am also grateful for the insightful comments offered by the anonymous peer reviewers at this article. The generosity and expertise of one and all have improved this study in innumerable ways and saved me from many errors; those that inevitably remain are entirely my own responsibility.

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