

A Study of Visual Effects Industry: In the Reference to Professional Quality of Production

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ABSTRACT

The study focuses on the visual effects industry in the commercial quality of producing VFX (Visual Effects) output by combining VFX artists and easy access to VFX software, Computer & Mobile applications. The ease of doing VFX work and the availability of artists has led to a huge growth in the (visual effects) industry. VFX play important role in the film industry and film industry cannot imagine without adding visual effects to every single shot and scene. Filmmakers create computer-generated (CG) backgrounds, products, living things and even people that would otherwise be unimaginable to film in a live-action shot. Visual effects software is readily available on various platforms, due to which there is a lot of unnecessary use of visual effects software. Experts are oozing to add VFX in each and every scene and that may be without any reason. This assessment tells about redundant uses of the VFX in the industry as a result most of the time the quality of design is decreasing. The easy access of VFX software's, Computer & Mobile Application and YouTube are made simple to use for one and all where the use of VFX without maintaining any design principal or the concepts of Animation (CG) and VFX design. That way output is not going to be traced at all. Most of the time design properties lack a commercial level. Throughout the study different types of collective data and justification has provided to evaluate and give a right explanation of this study.

Keywords: VFX – Visual effect, Animation, Software, VFX industry, Film, Mobile application, Computer- Generated Imagery (CGI)

INTRODUCTION

Background of the research

VFX is being used a lot in the entertainment industry these days and the VFX which has the biggest impact in the industry is in the entertainment sector. VFX is being used in every film and in which unnecessary VFX work like background making, color grading, rotoscope, masking, and different types of work is being done repeatedly or as per requirement. This is affecting the quality of VFX, it has been seen that in every film, advertisement, short film, daily serials, and online platform, VFX is being used a lot in all types of mediums. There is also a reason that it reduces the cost of production but at the same time, it is affecting the quality. If VFX is used as per the entire VFX pipeline

process, the results are very good but the use of VFX will reduce the production cost. What to do and if the pipeline doesn't work, it changes the output of the VFX and reduces the quality of the VFX. With help of Visual Effects, film maker save time and production cost. VFX is a good tool for Films Maker to create low budget movies, Television serial, animation, Motion graphic, and advertise. With used of VFX it's very helpful to create scene for film and cost effective. So lots of film maker use VFX. The scene can be shooting in a studio and composition work like background, matte painting, and animation can be completed by use of (CGI) VFX software's. VFX involves the integration of permanent use sequences (special effects) or digital or optical effects to transmit environments without flaming objects, animals, but creatures that appear realistic. But it would be dangerous, costly, impractical, time-consuming but impossible on the basis of capture on film. Visual effects using computer-generated imagery (CGI) have proven to be exciting and accessible in recent times with precluding on composition software that is inexpensive or particularly easy to use, according to independent filmmakers. Visual effects are widely used in almost all films produced today. About ninety percent of the film uses VFX and CGI.

The three phases of filmmaking are as follows – first is pre-production, second is a production and third is post-production. VFX is part of Post Production. In the post-production phase, the shooting and filming are completed and the VFX and editing process begins. A typical VFX pipeline would consist of three phases are Pre-production, Production, Post-production

Aims of the study

To understand the basic (Design Sense) principle of VFX

To understand the pipeline and process of VFX making

To understand role of software in VFX output

To understand the role of freelance VFX Artist in Visual Effects shots

Literature Review

VFX is being used a lot in the entertainment industry these days and the VFX which has the biggest impact in the industry is in the entertainment sector. (Kumar & Vats, 2017)VFX pipeline is a competitor of to create a VFX film. (Dunlop, 2014)

But after going through all the research it has looked in light that there is no research have been discussed on the current topic, thus, the current topic have been considered as research gap and this current study have been performed for feeling the research gap. Animation and VFX industry to grow by 8.5 percent and 18.5 percent respectively by 2020 - FICCI KPMG report The Indian animation and VFX industry grew at 16.4 per cent in 2016 to reach a size of INR59.5 billion, driven majorly by a 31 per cent growth in VFX, with animation remaining steady at a growth rate of 9 percent.(Men on, 2017). Post-production work is a well-organized collaboration process that can take a long time depending on the scope and budget of a project. (Master Class staff, 2021)

Methodology

The researches have been constructed based on secondary and primary data. The source materials have been collected from different journals, websites, books, viewing the VFX process, and some interviews from industry experts or work with VFX artists and unprofessional for data have been

contracted for the research source. Both primary and secondary data have been used in the present study. Primary data was collected by experimentalists. It is used by professional and non-professional artists to test the effectiveness of visual effects. Secondary data from various research journals, articles, web sources, Books and Government documents were merged. This study is comparison between professional visual effect artists and unprofessional-visual worker have also been considered with a VFX skilled point.

Discussion

There are many reasons for the easy availability of VFX such as the easy availability of VFX software, a variety of plug-ins for creating different types of effects, freelance artists. The three phases of filmmaking are as follows – first is pre-production, second is a production and third is post-production in the post-production phase, the shooting and filming are completed and the VFX and editing process begins.

Post-production work is a well-organized collaboration process that can take a long time depending on the scope and budget of a project.(Master Class staff, 2021) Important skills required being a VFX Artist - Composition and light, Color, Visual Aesthetics, Drawing, Mechanics and Movement, Passion for Film, Real world observation, Photography. Important part of VFX Software and Technology Related - Camera placement, Light setting (lighting setting in the time of shooting video and raw footage for VFX shoot), Color theory and color combination , Color manipulating and Color Correction, (Use of adjustment layer in composition Software), Composition Chroma, Matte paint, Environment and Background Design, Rot scoping, In the process, all types of VFX works are done under the pipeline in which the main work is as follows, Pre-Production, Production, and Post-Production.

(a) Lighting

A light artist applying All Light effects to digital projection is responsible for. Live artist plate light sources and existing Light in the environment virtual lighting for copy. The goal is to ensure that VFX and live-action elements are basically mixed, as they both exist in the same environment.

(b) Matte Paint

A matte painting is an image, created using digital or traditional painting techniques, to create a representation of a scene that would be impossible for filmmakers to deliver in real life. This might be because the landscape does not exist in the real world; it's not financially practical to travel to a location, or to extend the set outside of its filmed parameters.

(c) Rotoscoping

Rot scoping is used to create a matte or mask for an element so it can be extracted out of place on a different background, masked out so colors can be changed or any other set of reasons. The rot scoping artist will normally trace an object using a set of tools to create a new alpha channel for a specific part of an image sequence or video. Rotoscoping is an animation technique used by animators to track moving images, frame by frame, to produce realistic motion.

(d) Color Correction and Color Grading

Color correction and color grading is the process that comes after VFX. Color correction is the process of adjusting lighting and color to match each other of light to foreground and backlight. Color grading is the process of improving the appearance of an image for presentation in different environments on different devices. Various properties of an image, such as contrast, hue, saturation, detail, black level and white point, can optimize movie, video or still images.

(e) Knowledge of VFX principles

VFX Pipeline is a type of system with the help of which all types of VFX work can be done but in this process, all the work system has to be step by step so in this process, if in one step leave at any stage then it has a direct impact on the quality of the VFX which will result in the reduction of quality in spite of having the software which proves that the quality is affected despite the easy availability of the easy software of the VFX. Use of VFX in which to make world-class VFX work has to be done at a very high cost because the artists who do a great job for this have to pay a higher price than, those who work in big studios

But this is a very difficult task because to work in harmony with the company, the freelance artist has to join the production company and follow the pipeline which is not possible, so the freelance artist does not work in coordination with the company. So that the quality of VFX is directly affected and the quality decreases.

But there is also a way to get the VFX work done by this Freelance Visual Effects team which will reduce the cost but in the process somewhere outside the VFX pipeline which will become difficult to coordinate with the production company is also one of the reasons. Due to which the Freelance Visual Effects team works on software but the quality of VFX decreases. (Finance & Zweman, 2010)

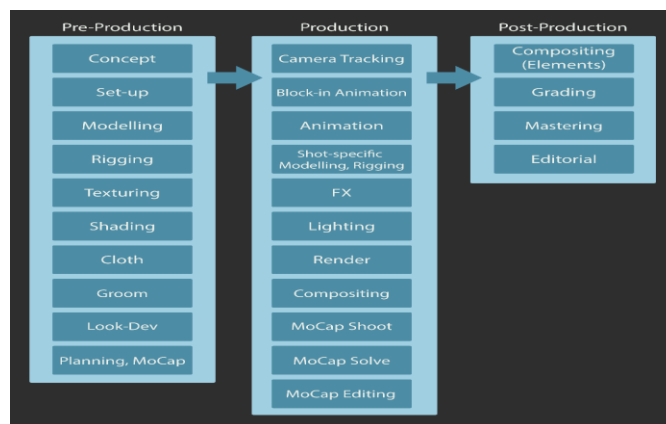


Figure: 1- VFX Pipeline

(f) Composition

Create a VFX sequence in the final output (Figure: 4Final shot- composition with green screen and Color Correction and Color Grading) , view value, or composition of the video or image. They take all the different digital materials used, such as computer-generated images (CGI), live action footage

(Figure: 2RAW footage green screen with tracking points), and matte paint or background (Figure: 3Background Image), and combine them to appear as a cohesive picture and shot. Photographers and all visual artists likewise learn to animate images, develop and enhance their visual language, and express their personal artistic aesthetics. (Rissler, 2014)



Figure: 2-RAW footage green screen with tracking points



Figure: 3-Background Image



Figure: 4- Final shot- composition with green screen and Color Correction and Color Grading

In composition, it is very important to see that all types of shot images, the background can match with each other and the position of the light is mixed with all types of a footage background image, effects, for this, it is necessary to have an artistic sense , companion colors composition and Should also have knowledge of color and if there are many types of characters in VFX then their placement is also very important and knowledge of artistic composition should also be there so that we can understand all types of photos, images, backgrounds, lighting color composition , character placements, well Create an artistic design by adjusting if it does not have any kind of knowledge like color, managing color composition, or lighting, they cannot use or create good design Composition

(g) VFX industry growth

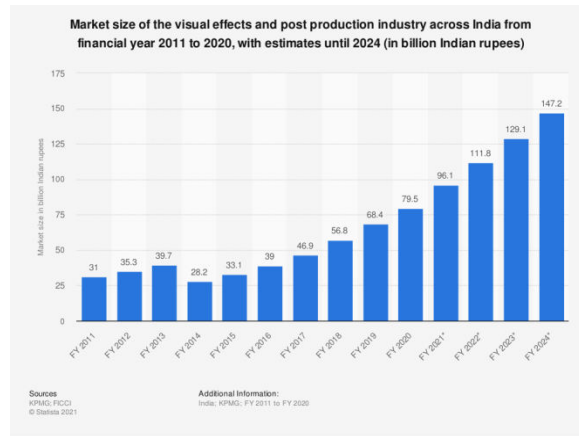


Figure: 5 -Market size of the visual effects and post production industry across India from financial year 2011 to 2020, with estimates until 2024(in billion Indian rupees)

The post-production and VFX market is growing steadily due to several reasons, one of the most important being here is also the ease of availability of software. The market size of the visual effects and post-production industry in India stood at over Rs 79 billion in (fiscal year) FY20, an almost Rs 39 billion compared to FY20. 2024, which indicates huge growth potential to the industry (Statist Research Department, 2021)

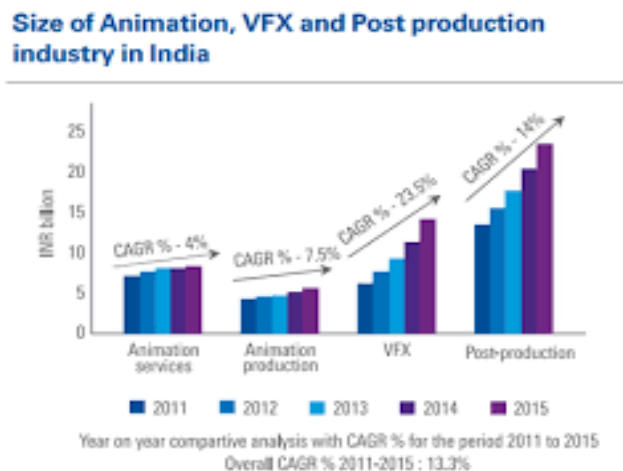


Figure: 6 -Animation and VFX industry to grow by 8.5 percent and 18.5 percent respectively by 2020 –

FICCI KPMG report

Right now the current time visual effects, the computer graphics market is growing every year, and according to 2015 at 80% of the films use the computer-generated image of background with help of VFX software (FICCI KPMG report) (McDonald, 2019). Most people use license software and

there are different types of software according to market or according to work and some software is free. And lots of plug-ins is used to create VFX shoots or different effects for this. So easy access of VFX software mostly people work with free software or use of the plug-in. Most people don't know about the complete process of VFX (visual effects) because visual effects are part of Pre-Production, Production, and Its complete teamwork task. There are some criteria to create different types of visual effects. It is now very linear practice of easy access of software or plug-in to create that kind of effect with a simple default command. So people used mostly this kind of software or plug-ins to create VFX. So that process is a direct impact on the design quality or directly impact of design output. Easy access of software or easy access to software plug-in impacts the quality of the output of the effects. Those interested in more creative and technical roles certainly have important skills like composition and light, Color, Visual Aesthetics, Drawing, Mechanics and Movement, Passion for Film, Real-world observation, Photography that should be taken into account in training. Skills are not related to software and technology.

This study indicates that in the VFX process all types of VFX have to go through all the stages and which has a direct impact on the timing of VFX work if all the work is done step by step in pre-production and post-production then VFX The quality of VFX becomes very good and if any work is left or left in pre-production and post-production, then it directly affects the quality of VFX and the quality level of VFX decreases. In many VFX works, it has been observed that due to the easy availability of software, a lot of work that could have been shot in different cameras and different locations was also seen by the filmmakers out and about. For VFX software I make and sometimes VFX software is used only. This is done without any requirement and the work of unwanted VFX which was not required is also used, due to which the use and quality of unnecessary VFX decreases, many examples of this are seen in many films.

According to all (Lighting, Matte Paint, Rotoscoping, Color Correction and Color Grading, Knowledge of VFX principles, Composition) VFX work like different types of process, we found that if we are using VFX pipeline or process of VFX like pre-production for perfection quality of VFX work or VFX design output is improve so that if we go through to complete VFX pipeline quality of VFX is improve.

Conclusion

The study clearly indicates that the skills referred to are not software and technology related. Software is just a medium to create Visual Effects it's the second part of VFX. However, a solid foundation in the following skills will help create a good quality of visual effects but easy access of software and different types of plug-in used in software, it's very easy to create difficult VFX shots with help of the plug-in. So unprofessional software artist create different types of VFX without using any proper guideline of VFX and not follow proper pipeline to create VFX shots. Good quality VFX is not the work of one single artist it is the work of a group of artists in Pre-production, Production, and post-production.

VFX Pipeline is a type of system with the help of which all types of VFX work can be done but, in this process, all the work system has to be step by step so in this process, if in one step leave at any

stage then it has a direct impact on the quality of the VFX which will result in the reduction of quality in spite of having the software which proves that the quality is affected despite the easy availability of the easy software of the VFX. If we do not use a proper pipeline of VFX its impact on the quality of design output. Ease of availability of software has increased VFX work but at the same time affected the quality of VFX

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