A Study of Evolving the Camera for Video Production to Support the Directors

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ABSTRACT This research is to develop the DSLR camera to help the directors to save time, expenses, and equipment by adding new elements into the camera. These elements enable you to see suitable sites, locations, lighting, angles and shots that will ease the shooting process for the director and actors as well. Therefore, the directors can choose any of them toform these options that will appear in the camera as a 3D hologram, which will give a better result than imagining it and then writing it on a paper. This research will have a big revolution in the filming in industry. Also, this will help directors to direct more than four movies a year that will help save time and budget.

Key words: new media, video production, filmmaking, directors, the camera in future, independent filmmaking, and cinematography, budget, time saving, location scouting, screen monitor, lighting, voice recording system.

Introduction

1.1 "Life would be easier with a smarter camera".

Nowadays there are many types of research about new media, especially in the film industry.

The cinematography is becoming new media; the audiences are more excited and thrilled to see how the filmmakers are developing their methods and ideas in directing and producing movies.

Video production is more about storytelling and capturing the audience'sattention but within that a lot of elements that are being added with spending a lot of time and effort to make it possible for the director himself.

Adding new elements for visual effects are like adding new scenes in the story, it makes it more interesting and appealing for the viewer. This, in fact, takes a lot of time for the director to sit and think about how to film it, how to find the perfect site for every act, or how to turn it into a more realistic scene;it is about making everything the director imagines is real. [1]

2.1 New media development of video production:

2.2 Film industry takes to its advantage new innovative revelations. It is an excellent advantage of using new discoveries regarding video production. The principal pattern and discovered arrangement are that film is experiencing the change from workmanship to open sources of joy for private utilization. This can also incorporate the advancement of developments, such as 3D, and 4D motion pictures, and HD movies. Henceforth, the film industry needs to take into consideration any new technological advancement in our world today.

2.3 Video productions are getting advanced in many waysespecially in developing the method of production and techniques. New media researchis being developed each day, although that may be true, there still remains a gap in the development to help directors save time and money.

2.4 The purpose of this report is to help the directors to save time and reduce thecost to produce several movies per year. Essentially time is wasted due to the fact of hunting down areas for various scenes, examining the perfect lighting, finding good audios and sounds to help with the tension of the scene. Also the addition of special effects such as realistic effects:fire, snow rain, car crash, etc.[2][3]

3.Lighting is a neccery method of video production.

3.1 The capture of raw footage and usage of set designs, take thetime to think about how will the director achieve it. However, it would be much easier if the Smart Camera existed, it would be a major development in the video production industry.If the director has an idea that would take at least a month to film, this camera would provide anything the director could imagine. He can just film raw footage and within the filming process, the camera will adjust the lighting that will enable you to manually set the ISO by adding the exact amount of lightneeded for the scene. It will give you some tips on the screen that will help you know how much it might need.

3.2 Also, it will show focus on the areas that will need light for example: shooting in a set where there isnot enough light, the director will have several options where to add lights (spotlights, target spot light, standard lights, etc..).

3.3 This will help with reducing the cost of replacing expensive lighting equipment, it can be a minor replacement of the number of people who are incharge of lighting, and also this helps with saving time without fixing the light for every shoot.[4]

4.Saving time toscout for a location:

4.1 The Smart Camera can help the director to have a good location that he imagines it

in his mind, simply by choosing an empty room, garden, graveyard, road etc., and adding simple effects to it. For example: shooting a scene, which needs a cracked road, the director can shoot a normal road and add the cracks by choosing an effect that is in the camera which shows cracks. Another example is snow, the director is shooting outdoor and the weather is just cloudy, by adding a snow effect in the camera it will give a realistic snow effect. Also, having a shattered glass, these effects are all in Adobe After Effect. We can take those presets from after effect and add them into the camera that can be stored, as well as to use later in other scenes.Having a relationship between the camera and Adobe after effect that will include using their presets and animation.

4.2 Special effects are very demanding in the film field especially in horror and action movies, having cars crashing into each other or having an enormous building set on fire, will take days to do it with animation, or with capturing the fire itself and developing it by using different software, also, it is dangerous to others life as well as to the environment (airpollution). A director can film a small flame, fire, smoke and have the option to increase or decrease it as if it's a zooming button from the outside of a digital camera.

4.3 Adding a projector into the camera to help the director to visualize the end product and to have a realistic and animated point of view, which will make anything the director imagines becoming real by using any footage that is animated or designed in any program.

This is possible as seen Lenovo yoga tab 3 pro but the only issue remain is the projector needs to be smaller
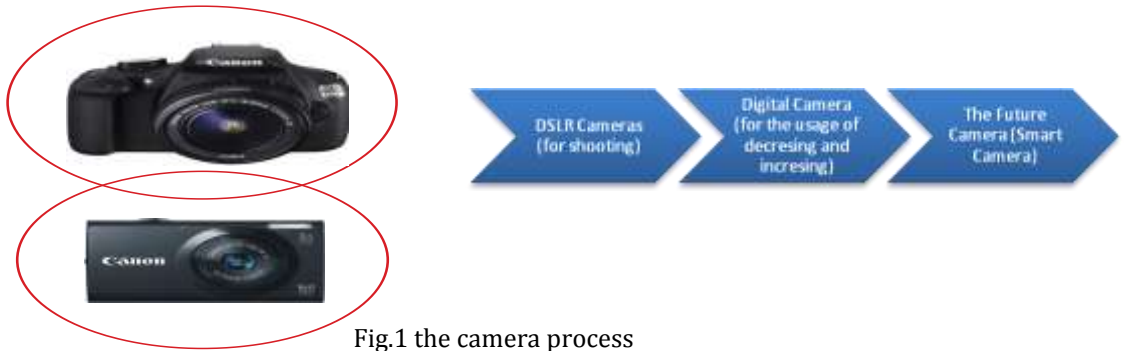
Fig.1 the camera process

Therefore, by using the idea of zooming in with a small button on the digital camera, the smart camera can have that as well, but for using the amount of decreasing and increasing of the object or the effect that is needed for the scene. (as shown in Fig.1) [5]

5   Sound effects:

5.1 Sound effects are very important in filmmaking; every scene has to have a sound effect in order to add more tension and to capture the audience's attention in a particular shoot, it's like a warming up to a scene.

5.2This section will focus on the sound effects that will have a list of audio sounds, which will be downloaded from the director's laptop and plugged into the camera. In the menu bar, there will be a category, which will list some audio sounds. For example,the sound of raindrops, the wind, door knock, footsteps etc.[6]

To enhance the camera sound recorder we should make the sound in high definition,

By using zoom H4n Audio Recorder concept, Sound impacts can be utilized to add mindset or climate to a wide area by making a soundscape those accents or adds another layer of intending to the pictures on the screen.

5.3 Taking that idea and using it with the Sennheiser ME-66 Microphone, which will be all on the camera so it would ease the idea of recording, but with a high definition.(as shown in Fig.2)[7]
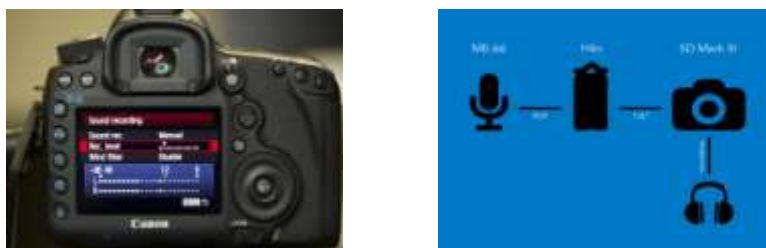

Fig.2 Recording cycle

4. Power Saving Mode:

4.1 converting the sunlight energy into Photoelectric cell, which will turn it into electric energy that will be stored in the camera light can be converted into electricity as Albert Einstein proved in his theory.(Fig.3)

The camera will have a solar energy, which will help the director to save time, whenever the director is filming outdoors the camera will keep on saving energy so it will be extended more than four hours of shooting, however there is another theory that batteries last longer if there was a warm climax, so filming in a warm location plus having a solar energy will keep the battery longer. One of the weaknesses of camera's battery is the weak possibility of turning off and on, that will lead to wasting energy but with the new facility, it

won't be an issue to turn it off due to storing energy.

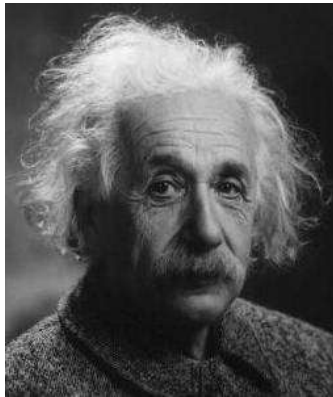4.2 adding a back up to the sunlight energy, normal batteries are another way to save energy,

plus batteries are available in everywhere and they cost less,

This will help the directors to film without being disturbed whether the camera is in low battery mode, especially if the filming was in a very cold atmosphere. (as shown in Fig.4)[8]
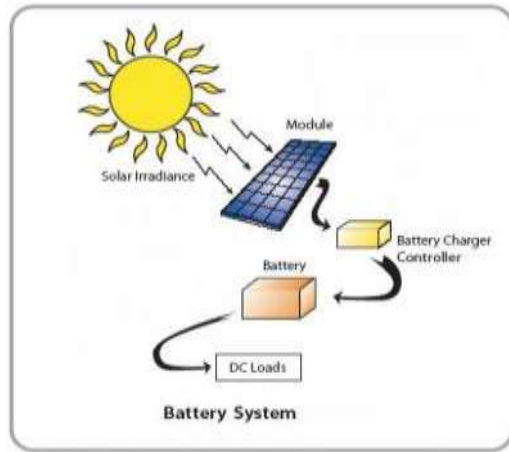

Fig.3 Albert Einstein

Fig.4 battery system

5. Creating a bigger screen and storage for the DSLR camera:

Due to the facilities and options in this camera it will demand a bigger monitor screen so that the director would focus on the smallest details in the scene, and to give it a bigger space to get creative especially with frames.

A bigger monitor will also help with editing and adding the perfect amount of special effects, arranging more space and capabilities to the areas that would be needed, also with adding a wireless connection to the director's laptop will help to ease the whole process of editing that's why the director will always need a bigger monitor to work with, therefore it's a compulsory thing to design a camera with a better monitor screen so that it wouldn't be much difference if the director edits the footage in his own laptop, the size, and resolution of the monitor screen could be as the size of an iPhone 6 plus which is

1080x1920 pixels.(as shown in Fig.5)

Also having an external hard drive must be considered with the package of the camera, the capacity of the storage in the camera might not be suitable as the ordinary camera due to the high options this camera will have, so in order to have that storage the camera should have an external hard drive so that every footage that needs to be used in making a film would be stored there without having the trouble to delete any of the previous ones that have been used.

Instead of wasting time and uploading the footages to the laptop and then clearing the storage in the camera, the hard drive will be connected to the camera, and options bar you can select the shoots, photos, recordersthat will be needed. It's a fast and easy way to save time and money instead of buying a memory card that will cost an amount of money every time u need to use it.

Fig.5 Iphone screen

Conclusion:

Directors, Lives would be easier with this camera, a big factor in this is the time and money needed to help with research and development, but with most of the research already being done, it's a matter of mixing pre-existing software together to create an easier interface that can help cut production time and cost in the future making the lives of aspiring directors and students much easier while allowing the simplicity of it all to remain the same.

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The only thing worse than being blind is having sight but no vision.

~ Helen Keller