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Digital painting evolution: A multimedia technological platform for expressivity in fine art painting

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As an emerging art form of the twenty first century, digital painting has gained acceptance as a two-dimensional art form, paralleling major traditional forms of painting in the art world. However, this aspect of the visual arts, rather underexplored, has not received the same degree of global acceptance and recognition accorded to well known fine art forms such as sculpture, painting and drawing. In spite of the proliferation of graphic application software for digital painting and the popularity of web art galleries displaying works of renowned digital painters, digital painting is yet to be explored as a visual art form in the traditional studio painting fraternity in many African countries especially Ghana. This is attributable to the lack of expertise in computer graphic application among amateur and professional studio painters. The essence of this paper is to employ the descriptive research method to demonstrate the capabilities of the computer as a multi-media apparatus for expressivity in Fine Art Painting that can foster idea development and enhancement of techno-aesthetic values in studio painting practice. The methodological procedures as discussed in this paper were the result of the author/artist's experimental studies in figurative composition with Adobe Photoshop. Two of the major digital art techniques: 'Digital photo-art' and 'Traditional digital painting' techniques formed the bases of this artistry.

Key words: Digital painting, graphic application software, multi-media apparatus, studio painting, Adobe Photoshop.

INTRODUCTION

1964 saw the introduction of the 'sketchpad', the first computer drawing system that has given rise to various painting software including Corel Photopaint, MetaCreations, Painter 3D, Adobe Photoshop and JASC's PaintShop Pro, that allow computer users to simulate painting on a computer screen. Users also employ a computer mouse or a tablet stylus to simulate various sizes of paintbrush, select colours from a colour palette to retouch photographs, adjust the contrast and

the colours of images and add special effects (Sawyer, 2005). The result is often an enhancement of the picture quality of the photograph.

The global acceptance and recognition accorded to well known fine art forms such as sculpture, painting and drawing has therefore not been extended to this rather underexplored area of the visual arts (Dodds, 2010), in spite of the popularity of digital art galleries on the World Wide Web (www) as well as some international museums

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displaying outstanding digital paintings. There is documentary evidence to show that some critics expressed scepticism about the validity of using computer as a multimedia apparatus for executing paintings during its early period of inception in the 1960's. The rejection was based on the premise that the art of painting cannot be done on a computer since the device only generates digital graphical images, which are superficial, without depth and of limited artistic value (Helmick, 1995). To most traditional artists, computer art is solely a technological craft that is informatively and aesthetically deficient. To them computer generated art is for commercial considerations, dull in outlook, lack innovation and quality hence could not be given a place in fine arts (Smith, 1989).

The experience of the French painters of the 18th and 19th centuries who executed and exhibited works in their individual techniques and styles, in opposition to the laid down conventions in painting by the great masters of the renaissance is similar to these critical judgements. Their works were rejected by critics of the day, with some branded as lunatics (Mathey, 1961; Gombrich, 1972). Today the technique and styles of those French painters have helped to shape the fine art painting profession. It is inspiring to note that, these studio-painting techniques have also formed the bases of the painterly effects incorporated in most image editing software including Photoshop, which users employ to assign desirable finishes to their digital paintings. Again, collection of Digital Painting techniques (Digital Matte Painting, n.d.), documented in books as well as through the electronic medium of the internet are attestations of the positive drive to popularize this scheme of artistry in the art world.

Although the recognition is gradually improving due to its impact on the animation production industry, digital painting is yet to be explored as a visual art form for executing functional paintings and idea development especially in colour orchestration in the traditional studio painting fraternity and art institutions in Ghana.

As fine art painters create works of art, they communicate to the viewing public, concepts about the subject matter of their works. They carefully select their colours and artistically express themselves to project significant artistic values (Adams, 1999) by means of the techniques they have mastered with great sense of visual experience (Jaxtheimer, 1967). Studio paintings that possess such unique artistic values are well patronized by collectors because the works meet their aesthetic desires. This implies that digital painters can also influence public acceptance and patronage if the aesthetic value system of the spectator becomes congruent with the artistic values of the computer art they produce (Monovich, 1994). It is therefore possible to alter the negative perceptions about digital paintings through the execution of works that possess aesthetic values which are in congruent with the taste of spectators, most especially art critics.

This is the motivation of the author, who is also the originator of these collections, for writing this article to demonstrate the possibility of executing stylistic digital paintings, comparable to traditional mural or easel painting styles, or for fostering idea development especially in colour orchestration in studio practice. The results of these experimental studies, which are a complete deviation from the photo enhancement strategies often associated with digital painting, is to help popularise the technology and inspire its adoption to complement existing traditional modes of painting in the Ghanaian painting fraternity.

ESSENTIALS FOR DIGITAL PAINTING

The main devices employed for this study were a laptop computer and a digital camera. Adobe Photoshop 7 image-editing software provided the virtual painting materials for the execution of the paintings. Digital painters require a painting programme termed as image editing software with virtual painting materials to simulate painting on a computer screen (Sawyer, 2005) just as the traditional studio painter will use traditional materials (*coloured pigments, applicators and supports*) to achieve similar results in studio practice. Adobe Photoshop provides users with a single environment in which scanning, retouching and image enhancement is accomplished. It is equipped with various textured brushes, a palette consisting of millions of colour shades and canvas or support, all in the virtual form, so painting can be executed (Binder, 2000).

For this experimentation, the colour palette (Figure 1) served as the 'virtual pigments' which were applied to the composition using the Brush, Smudge and Clone stamp applicators (Figure 2). The sliders and the spectrum provided the tools for mixing the colours to desired shades.

It is important to note that the processing speed and the available physical memory of a computer are paramount in digital painting because they impact greatly on the amount of time Photoshop will take to apply an effect to a painting (Aaland, 2001). To ensure rapid rendering of effect, a computer that runs on a 64-bit processor of speed not less than 2.2 GHz Dual Core version should be used with an installed physical memory of not less than 3 GB.

Digital painting processes

Two of the major digital art techniques, '*Digital photo-art*' and '*Traditional digital painting*' techniques (Wales, 2013), were employed for this experimental studies. The resultant painting styles as described in this article were the result of an amalgamation of the two techniques. The effects show a complete deviation from the photo

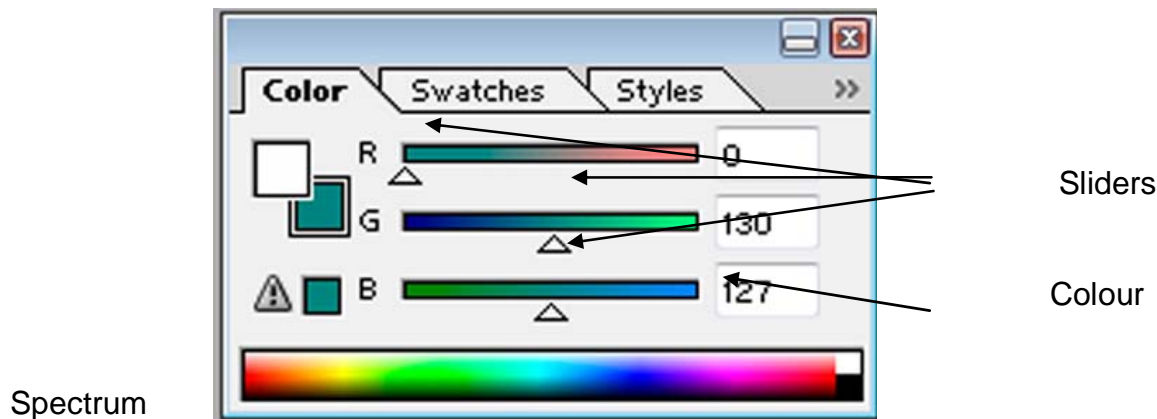


Figure 1. Colour palette with sliders and colour spectrum (Adobe Photoshop 7).

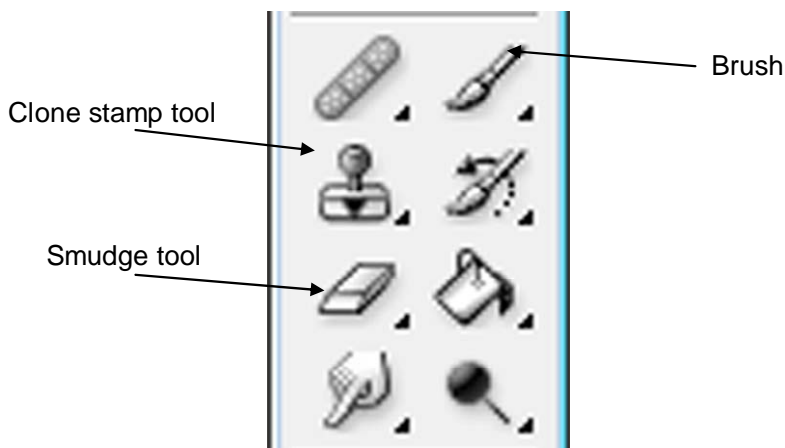


Figure 2. Digital painting applicators (Adobe Photoshop 7).

enhancement strategies often associated with most digital painters.

The *Digital Photo-Art* starts with a digitised photo of a figure, scenery or a still life captured from its natural setting. This photo serves as a template sketch. The digital photo is imported into the image editing software where its photographic effect is enhanced by manipulating and transforming it into a new image with the help of digital tools without introducing new picture elements.

The *Traditional Digital Painting* technique describes the simulation of easel and mural painting techniques to produce effects that are in congruent with traditional studio paintings. The technique is characterised by the brush or palette knife stroke-by-stroke application fashion, even though the painting brushes, colour palette and canvas are virtual. This technique requires understanding of the colour wheel and colour mixing to achieve colour harmony.

The author's approach involved four stages. In the first and second stages, the digital photo-art technique was

employed. In the third stage, the traditional digital painting technique was employed whilst the fourth stage combined the two techniques.

RESULTS AND DISCUSSION

Stage One: The author's digital painting always begin with the creation of a sketched composition, which instead of drawing with drawing tools, a digital camera is used to capture the subject from a live situation and imported into Photoshop. This begins the digital photo-art technique, which serves as the template image or the compositional sketch. Figure 3 that portrays a genre domestic activity of the preparation of Ghanaian local dish "Banku" was the template compositional sketch for this experimental study.

Stage Two: The author at this stage of the digital photo-art technique employed the 'paint-dub' filter tool to transform the original image into simple planes. The



Figure 3. Digitised template photographic image representing the compositional sketch.



Figure 4. Digitised photographic image filtered with paint-daub tool and colour saturation reduced by 50%.

colour saturation was also reduced by 50% to diffuse the colour harmonies in the original image. This was important to enable the author choose his own colour scheme to prevent stereotypical effects (Figure 4).

Stage Three: This is the most demanding and challenging of all the stages. It requires a thoughtful selection of appropriate colour scheme and a background skill in easel painting to orchestration digital painterly



Figure 5. Application of colours to the planes of the paint-daubed filtered photograph.

effects. The choice of colour scheme in digital painting should not be regarded as a casually made decision. Painters require creative exercise to convey a feeling, a mood, a purpose or a desired message to a critically minded viewer.

The colours in the template photograph (Figure 3) did not influence the choice of colour scheme. Rather, the tonal values of the planes as well as the mood of the atmosphere in a busy kitchen determined the shade of colours to use. The virtual brush tool and colour palette were used to introduce new colour elements depictive of this mood, at varied opacity and flow levels to alter the entire template colour scheme. The colours were applied to the various planes in a swipe motion. Even though the colours were juxtapositional in application, the technical quality of chiaroscuro in colour harmony was accomplished in a manner to portray the desired colour scheme and the temperature of the room (Figure 5). The blending tool, which is the smudge tool in Photoshop, made this possible. It was applied in varied strengths to harmonise the chromatic values of the colour elements. The clone stamp tool was occasionally employed at varied opacity and flow levels to replicate accidental effects. By these approaches, the author was able to suggest his own colour scheme completely at variant with the scheme of the template photograph (Figure 5).

Stage 4: This was the last stage of the painting processes. The smudge tool action continued to blend the juxtaposed colours as it pertains in traditional studio painting practice to create accidental middle tones to harmonising the juxtaposed colour shades. The strength of the degree of smudging varied between 50 and 80%. As the blending progressed, the composition became refined, depicting the desired 'warm' mood of the kitchen



Figure 6. 'Craquelure' textured finish simulating a palette knife effect.



Figure 8. Ripple effect.



Figure 7. Watercolour effect.

scenery with a hearth of burning firewood and a pot of hot 'banku'. The author was able to simulate a palette knife impression by filtering with the 'Craquelure' textured tool in Photoshop as depicted in Figure 6.

Basis for idea development

Works produced on the multimedia platform aside functioning as finished artistic products can also serve as basis for idea development in studio painting practice especially for painters who cherish the use of traditional mediums in painting. Painters often conduct experimental studies to hatch techniques and styles to project the

themes they want to capture on their canvases before final works are produced. One major component of Adobe Photoshop is the presence of filtration tools purposely for simulating variety of fascinating effects. From a single painting, the writer could employ these tools to develop multiple stylistic ideas, at no cost regarding material inputs and select the most impressive effect as his finished work.

Easel painters can also explore these tools to develop creative ideas and replicate them on the physical canvas without going through the laborious exercise of developing them on separate canvases at additional material cost. Painterly effects like pointillism, mosaic, impasto, watercolour, sand collage, ripple effect, cubism etc. are few of what can be created from Photoshop. Figures 7, 8, 9, 10, 11 and 12 display some of these effects simulated with the use of filtration tools on a single digital painting.

Watercolour Effect

The watercolour tool is one of the artistic tools under the filter menu. Clicking on watercolour from the list will open the watercolour dialogue box. The watercolour dialogue box is equipped with three sliders for adjusting the brush detail, shadow intensity and texture. It is the degree of adjustment that determines the creative result. This result is however dependent upon the colour orchestration in the original digital painting.

The ripple effect

The ripple tool is listed among the Distortion tools under



Figure 9. Pointillist effect.



Figure 11. Spattering effect.



Figure 10. Mosaic effect.



Figure 12. Sand Collage effect.

the filter menu. It results in a wavy effect, which is achieved by adjusting the 'amount' slider and the wave size. The creative result is dependent upon the colour-scheme and its orchestration in the original digital painting.

Pointillism

The pixelate option under the filter menu has the pointillize tool for creating cells of colours in the digital painting, based on the colour scheme in the original

digital painting. The pointillize dialogue box displays the cell size slider, which varies the size of the colour cells as it is adjusted from left to right.

Mosaic effect

The mosaic tool is part of the pixelate tools. It applies effect in the same manner as the pointillize tool. The cells of the mosaic effect are polygonal as opposed to the blurb nature of the pointillize effect. Its creative effect is dependent upon the variations in the colour scheme of the original digital painting.

Spattering effect

The spattering tool is one of the brush stroke tools under the filter menu. Its dialogue box is equipped with spray radius and smoothness sliders which when adjusted will spray colours in varying degrees, based on the orchestrated colour scheme of the original digital painting.

Sand Collage effect

Photoshop has no single filtration tool for rendering a sand collage effect. However, a combination of 'craquelure', 'texturizer' and 'ocean ripple' tools will result in this effect. The process starts with the craquelure, which is one of the texture filter tools. The tool simulates a cracking effect that is obtained by adjusting the crack spacing, crack depth and crack brightness sliders. This is followed with the texturizer, which is also a texture filter tool. This tool adds a sandstone texture to combine with the craquelure. The degree of roughness of the sand can be obtained by adjusting the scale and relief sliders. The ocean ripple is one of the distortion tools for strengthening the magnitude of the ripple effect as the ripple size and the magnitude sliders are adjusted. This combines creatively with the texture tools to bring out the sand collage effect.

RECOMMENDATIONS

Any inspired artist hoping to explore the computer for painting must firstly obtain a computer with the correct specification. To ensure smooth rendering of effect with filtration tools, a computer that runs on a 64-bit processor of speed not less than 2.2 GHz Dual Core version should be used with an installed physical memory of not less than 2 GB. Secondly, he or she must be conversant with the basic principles in pigment colour mixing and knowledge about colour mode and models in computer graphics.

Additionally, painters must be creative in their choice of colours, because the flair for fusing traditional painting techniques and styles such as pointillism, impasto, watercolour etc. to communicate artistic ideas subjectively will enhance originality, creativity and identity. This will obviously help to capture the curiosity of spectators, arouse their interest and gradually heighten the value people place on digital paintings. Digital painters must work to produce results, which should not appear too different from easel painting.

Conclusion

The author in his exploration of Adobe Photoshop image editing software for digital painting has simplified some fundamental technical approaches that could serve as a

foundation-building platform for prospective digital painters. This has been achieved using two major techniques '*Digital photo-art technique*' and '*Traditional digital painting technique*'. Judging from the visual effect of the paintings in terms of colour harmony, orchestration and textural effects, one would be tempted to misjudge the paintings described in this article as easel paintings that have been scanned and enhanced in a graphic application software. This is obviously, because the finished paintings bare that resemblance.

The digital painter might be seen as being limited with techniques and mediums, as compared to a traditional painter, especially concerning surface differences and lack of physicality. Nonetheless, it has most importantly, the advantage of the ability to undo and redo applied strokes. The digital painter also has at his or her disposal several tools not available to the traditional painter. The virtual palette for example consists of millions of colour shades from which to choose. He also has the ability to obtain any size of canvas on which to paint. Above all, the 'effect filter' of Photoshop makes it even possible to obtain hundreds of artistic effects that are impossible to achieve in studio painting.

Studio painters who are not comfortable with acrylics and also suffer allergic reactions to turpentine, a major solvent for oils, can now heave a sigh of relieve since the computer multi-medium apparatus offers a positive alternative for artistic exploration. Those who still find the physical canvas as the only carrier for expressivity of artistic ideas will find the colouristic results on the computer screen as models for transference unto the physical canvas. In this case, digital painting will become a means to a successful studio practice.

The computer has undoubtedly become the most dynamic working tool for analysing and solving problems in all fields of endeavour. The professional painter cannot afford to trail in this respect without exploring its potentialities for enhancing his or her output both in academia and in professional practice. For computer to be widely accepted as one of the tools for artistic expression, any form of barrier that hinders its adoption especially that which borders on techno-aesthetics must be overcome through creative handling of the device.

Conflict of Interests

The author has not declared any conflict of interests.

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