Digital Portrait Painting in Geometric Shapes

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Abstract:
This paper demonstrates three techniques of simplified digital portrait painting using geometric shapes. These techniques have been expressed through the use of manual drawing skills and computer software. Why should the artist/painter eliminate or cover all the marks they make when it comes to portrait painting as if it does not belong to the artwork? Over the years, in the field of painting, works have been produced based on the materials and tools available at that time. Many amateur and professional artists in Ghana do not use the digital technology to paint because of the difficulty in using the mouse to draw and paint. The focus of the researchers is to give artists that used the digital technology in painting more stylistic options in the execution of their works to add to the already existing techniques in digital painting. The researchers adopted qualitative research design for the study. Descriptive research method was used in writing the various steps involved in the execution of the project works. Interviews and observations were the main tools employed in gathering data for the project. This research ultimately aimed at inspiring and motivating more artists in the usage of the digital painting technology in their paintings.

Keywords: Digital painting, geometric shapes, portrait painting, photoshop

1. Introduction

Representation in the field of visual art comes in various forms and variety of media. Artists globally explore geometric abstractions and imitate nature in an attempt to establish 'truths' from various angles with the media and facilities available to them. Contemporary art and its practices currently are dynamic. Thanks to the ever expanding ideas or knowledge of the visual complexity and the digital order abundant in the current technological advancing world. However, most of the contemporary painters in Ghana if not all, have not taken digital painting as an area of explorations and the digital art media as tools in the execution of art works. The researchers as artists believe in the combinations of ideas, the known and unknown, virtual spaces and actual spaces, tangible spaces and intangible spaces and micro and macroscopic spaces achieve the digital representational paintings.

Portrait painting over the years has been a subject for contemporary Ghanaian painters with various media such as oils and acrylics. The digital art media such as Photoshop, Corel Painter and Illustrator are some of the new media used by some internationally acclaimed digital painters to create portrait paintings. Capturing of these portraits with the digital media has been dominated with styles such as Rococo, Realism, Impressionism and Naturalism. Ideally, a digital painter must have a tablet and stylus for the effective drawing and painting of images straight into the computer. This is not readily available for both students and professionals because it is expensive and not available in the Ghanaian market. Therefore, the mouse becomes the only means to draw and paint images straight into the computer which is difficult and frustrating. Unlike studio drawing and painting on supports, it is an arduous task to control line drawing with the mouse in digital painting. This means that one should be skillful to be able to draw objectively and paint portraits straight into the computer. The concerns and frustrations on the difficulty in using the mouse to draw and paint have discouraged many students and artists in digital painting. In the end most of the artists and students resort to editing pictures with Photoshop Filters instead of painting with it.

The aim of the researchers was to find out procedures and techniques professional digital painters use to paint their works and the challenges students face in using Photoshop. The researcher was to create digital painting techniques aimed at inspiring and motivating artists in the Department of Painting and Sculpture and other professional painters to take to digital painting. To create representational portraits with simple geometric shapes using Adobe Photoshop CS2.

1.1. Geometric Shapes in Art

In the parlance of the visual arts, according to Dondis (1973), there are three basic shapes, and these shapes are the square, circle and equilateral triangle. Each of these basic shapes has its own unique characteristics and to each is the attachment of a great deal of meaning. Some of the meanings are through association, some through arbitrary attached meaning, and some through psychological and physiological perceptions. These are the basic shapes that are used as the foundation for all other shapes. The works of the likes of Kasimir Malevich, Wassilly Kandinsky, Piet Mondrian, Lee Krasner, Carl Andre and Frank Stella have explored these basic geometric shapes and abstractions.

According to Russian artist Kasimir Malevich (2009), created a form of abstract painting based upon elementary geometric shapes—primarily squares and rectangles—in basic colours on a white background. In doing so he sought to remove all references to the world of objects and to create a spiritual art in which shapes and colours, and the surrounding space of the painting, evoke a state of tension and its opposite equilibrium. Attempting to reduce art to its purest essence, Malevich removed all outside references from his paintings, creating completely non-objective works. The term *suprematism* which was the title of his painting in 1916 was meant to evoke the "supremacy of pure feeling." The square symbolized sensation; the field or background, nothingness.

What Malevich wanted to depict was the pure essence of sensation itself, not a sensation connected to a specific experience such as hunger, sadness, or happiness. On the other hand, Russian painter Wassily Kandinsky after World War I (1914-1918), abandoned his earlier fluid style in favour of sharply etched outlines and clear patterns. This made Kandinsky's abstractions increasingly geometric in form, for instance, is composed solely of lines, circles, arcs, and other simple geometric forms. In his very late works such as *Circle and Square* (1943, private collection), he refines this style into a more elegant, complex mode that resulted in beautifully balanced, jewel-like pictures. Kandinsky saw his abstractions as conveying a sense of spirituality.

Piet Mondrian carried abstraction to its furthest limits through radical simplification of composition and colour. He sought to expose the basic principles that underlie all appearances (Cernuschi, 2009). In 1917, Piet Mondrian and Theo van Doesburg founded De Stijl, a movement intended to restrict artistic expression to the barest essentials (Cernuschi, 2009). Mondrian saw the asymmetrical grids of his compositions as metaphors for the balancing of opposing forces: man and nature, individual and society, and so forth. These ideas were so central to Mondrian's work that he envisioned his compositions as the basis for architecture and interior design.

1.2. Assumptions on the Basic Geometric Shapes

Many scholars have given interpretations and meanings to the basic geometric shapes which are triangles, squares, rectangles and circles. Below are some meanings and interpretations associated with these shapes.

1.2.1. Squares and Rectangles

In Flatland, squares are 'gentlemen and professional men' according to Abbott (1984). The Squares and rectangles are the most common shapes of man-made objects.

From architecture to the arrangement of text on a page to the shape of the page itself, most of what people encounter on a daily basis is composed of squares and rectangles. Because so much of the man-made world is composed of these shapes, squares and rectangles are familiar, safe, and comfortable, but their uniformity can also create a conservative or rigid effect. They can be used to suggest stability and truth. Squares are considered to be one of the most honest shapes, even more than other types of rectangles, because of their mathematical and visual simplicity.

In Ghanaian arts (Amenuke, *et al*, 1991) the square or the rectangle stands for the sanctity (purity) in the male as well as God's influence on society. Because of its pure nature, the square is often inscribed on the wooden door of some royal stool houses. The same symbol is either embroidered in yellow on white cloth, or done in yellow leather with black leather and placed by the bed of paramount chief to be stepped on so as to be sanctified. The backrests of most male royal chairs are usually based on a square or rectangular symbol with a circle in the centre. The square represents the stainless purity of God, while circle stands for his sacredness.

1.2.2. Triangles

The triangle is a symbol of female influence in society (Amenuke *et al*., 1991). It is the symbol for royalty ornamentations amongst the King and chiefs of Akans. As has been evident in some feminist artistic works such as Judy Chicago's *The Dinner Party, 1979* and Faith Ringgold's the triangle is a sign of the goddess an early symbol of female power (Sayre 1997). Triangles suggest action because of movement from the corners "pointing" in a direction. Equilateral triangles are the most stable of the triangle shapes because all sides and angles are the same. Triangles can suggest growth or "reaching the top." Because of their widespread use in electronics, triangles can mean play, action, and next. Triangles are also used to represent stability, a cultural reference to the pyramids. They are also used for beacons, arrows, and pendants, and can symbolize the Christian principles of the Holy Trinity and the unifying concept of three. The triangle is also associated with conflict and tension (Dondis 1973).

Abstract artist Kandinsky (1911) felt that an authentic artist creating art from "an internal necessity" inhabits the tip of an upward moving triangle. This progressing triangle is penetrating and proceeding into tomorrow. Kandinsky compares the spiritual life of humanity to a large triangle similar to a pyramid; the artist has the task and the mission of leading others to the top of the exercise of his talent. The point of the Triangle is constituted only by some individuals who bring the sublime bread to men. It is a spiritual triangle which moves forward and rises slowly, even if it sometimes remains immobile. During decadent periods, souls fall to the bottom of the Triangle and men only search for the external success and ignore purely spiritual forces. The researcher learnt from several of the philosophy of art lectures that Plato reduced everything in the universe to triangles.

1.2.3. Circles

In *Flatland,* the circle comes with Nobility or Priestly order and it is the highest class of all and it epitomizes knowledge and wisdom (Abbott, 1984). The circle is often used in Ghanaian arts to symbolize the presence and power of God as well as the spirit of the male in society. The appearance of a circle in the design of the central pillar of most stools represents the spirit of God and his presence in society. The circle is used in human body symbolism to describe all sexual and sensory organs since they are regarded as sacred due to the special functions they perform. The backrest of the Akan royal seat must, as a rule, have a circle on it, or else it is not perfect. The shape of the *tadeo,* the disk of office of the soul-bearer of the Akan royal court is always circular in shape. The circle is a symbol of purity and holiness which is the reason why most temples for deities and gods follow circular plans such as La Kpa of Labadi, Digbleh of Prampram, Tano of Takyiman and Ntona of Elmina (Amenuke *et al*., 1991).

Circles suggest infinity, completion, softness, and security (Kator 2003). Kandinsky developed an intricate theory of geometric figures and their relationships, claiming, for example, that the circle is the most peaceful shape and represents the human soul. Many ancient cultures considered the circle to be a perfect and even a sacred form. Circles are also associated with warmth, endlessness and protection (Dondis, 1973). Circles are useful for focusing attention because of the closure of the shape, and because they are less common in man-made objects than shapes with straight lines. Ellipses share the psychology of circles, but to a lesser extent depending on the how close they are in a true circle.

1.3. Portrait Painting

Portraiture, according to Mann (2008) is a visual representation of individual people, distinguished by references to the subject's character, social position, wealth, or profession. In the broadest sense, portraiture can include representations of animals or even representations of dwellings. As discussed here, however, portraiture refers only to images of people. In non-Western societies, portraiture is less likely to emphasize visual likeness than in Western cultures. Portraitists often strive for exact visual likenesses. However, exact replication is not always the goal. Physical resemblance to the subject is considerably less important in the traditional portraiture of African and Asian cultures than it is in traditional European art.

Many contemporary American artists, such as Chuck Close, have made the human face a focal point of their work. Portrait painting in art history has gone through many phases in terms of medium, style and technique in the representations. The situation artists find themselves at each particular generation is a strong determining factor in the kind of works produced.

1.4. Geometric Shapes and Portraits Painting

Traces of the combination of geometric shapes and portrait of persons in the painting or representation in visual art, especially, can be seen in the wall paintings of the tomb of Queen Nefertiti, wife of Ramesses II which was discovered in the Valley of the Queens, near Deir el-Bahri, in Egypt in 1904 and the illustrations in the Book of the Dead (Stokstad, 1995). In the periods of portrait painting in the history of Western art, merging geometric shapes with natural object's visibility was in the period of cubism in the 1900s. And later in America in the 1970s, where the photorealists such as Chuck Close merged geometric designs in the form of grids in his portrait representations. Nonetheless, Artists over the years have explored geometric shapes and abstractions in their works for one reason or the other. Art movements such as Constructivism, Suprimatism, Minimalism, Formalism, Zedism, Revivalism, Orphism and some Conceptual artists have explored geometry to make their points. However, some of their masterpieces were meant for the purity of the geometric shapes or designs without the contamination of any verisimilitudes (Carroll, 1999) even though some of their explanatory power was dependent on it.

1.5. The Cubism Doctrine

The beginning of the cubist painting is accredited to Paul Cézanne too, as it was established that Pablo Picasso was under the influence of the Cézanne when he painted *Les Demoiselles* (Sayre, 1997). In the cubist style of painting, the artist looks at the objects and imaging them as geometrical forms, circles, triangles, cylinder, cones and like that (Naval, 2009). Then the painter transfers the mental images on the canvass with the help of cool or bright colours. In cubist artwork, virtually, the objects to be painted, are first broken up, then analyzed, and finally re-assembled in a summarized form. The object, or the limbs of a figure, in a painting done in cubism style would not create a feel of logical depth, as it consists of planes that might be semi-transparent and intertwined. The final output might look like an abstract painting, too. The cubist painters like Pablo Picasso, Braque and many of their contemporaries and followers, concentrated mainly on the geometrical forms in their figures rather than the colours. Therefore, colourswere subdued in their paintings.

1.6. The New Media

New media is a term meant to encompass the emergence of digital, computerized, or networked information and communication technologies in the later part of the 20th century. Most technologies described as "new media" are digital (New Media,2009). The 21st Century is a unique moment in history in which all forms of cultural production and distribution are becoming based on computer technologies. This increasing dependence on images for information and images as knowledge necessitates visual and digital literacy, as well as a technological, cultural literacy. Digital art has been in existence over six decades now and a lot of artists, most of whom are based in Europe, Americas and Asia have been exploring this field of study since 1945 and are still doing so now. And in 2010 the term now is the New Media art which is used to describe all artworks that employs the usage of digital technology or media.

In most part of Africa, however, especially in Ghana, this field of study is still at the developing stage. Even though the advertising industry is making in rolls in the use of Digital media or art, same cannot be said in the field of painting even though there is the

availability of the appropriate software and digital printing firms. Professor Achamyele Debela of Ethiopia is one of the pioneers in the field of Digital art who has exhibited around the world. However, in Ghanaian artist Dr. G. Y. Annum, Lecturer of Digital Art in the Department of Painting and Sculpture is exploring this field in his practice as a painter.

2. Methodology
Qualitative research design was adopted for this project. Qualitative research aims to understand the richness and complexity of social experience by attending closely to the actions, interactions, and social contexts of everyday life (Holstein & Gubrium, 2002). It involves systematically watching people in their own territory or speaking with them in depth about their thoughts and feelings. Qualitative research focuses on the ''qualities'' of social life. The goal is to describe the dynamics and texture of everyday life. Qualitative research methods and theories are diverse. There are common threads that run through qualitative inquiry. The first is a skeptical orientation to the commonplace, the second is a commitment to the close scrutiny of social action, third is the recognition of variety and detail, fourth is the focus on process, fifth is the appreciation of subjectivity and sixth is a tolerance for complexity.

Qualitative research typically regards social life as a vast interpretive process in which people guide themselves by defining the objects, events, and situations which they encounter (Holstein & Gubrium, 2002). Qualitative strategies are typically used to answer exploratory questions as they help identify important variables and hypotheses about them. They are also used commonly to answer descriptive questions because they can provide in-depth information about groups and situations. Although qualitative strategies have been used to answer predictive, explanatory, and evaluative questions, they are less able to yield results that can eliminate all rival explanations for causal relationships (Holstein & Gubrium, 2002). The reasons for choosing a qualitative research design were from the above.

Observation and Interviews were the main research tools employed in this project. The typical techniques used in qualitative research for collecting data include observation, interviews with various participants, and reviewing the documents. However, combination of interview and observation, according to Holstein & Gubrium, (2000) is called ethnographic interviewing. Digital camera, Flash drive, Pen and Notebook were used for the recordings of observations and interviews which were the main research tools for the project.

3. Results and Discussions
The researcher had been experimenting with Photoshop and Illustrator in digital painting since 2006. The earlier works were executed with Microsoft paint, Photoshop and Illustrator. The paintings were done directly in the computer. Some of the works were portraits, fruits, and landscapes. Later works of other professionals in the field of digital painting such as Acha Debela were researched into. It was found that digital painting was done in two major ways;

    i. By drawing and painting straight on the computer either with the mouse or a stylus.
    ii. By scanning drawings, paintings and pictures into Photoshop with the help of a scanner or by using a digital camera to take pictures, drawings or sketches and downloading them into Photoshop.

Most of the online tutorials by digital artists such as Elin Josefsson, Robert Chang, Padisio and Monkey-Jack show that artists use these approaches in the execution of their art works.

Figure 1: Forro, Scene from Daboja, 2006. Photoshop 7. (size 25" x 15")

Figure 2: Forro, Ama & Kofi, 2009. Illustrator & Photoshop 7. (size A4).

4.2. Drawing of Images
Drawings were made from Portrait photographs on A4 sheets which were scanned into the computer for painting to be executed. 2b pencil, black ball pen, ruler, set square, eraser, A4 bond sheets and photographs were the main tools and materials used in the drawing of the images to be digitally painted. All the photographs used in the execution of the project works were first drawn with a 2b pencil on an A4 sheet of bond paper before the black ball pointed pen was used to put the geometric details to it. The pencil marks were erased afterwards. When all the sketches were completed, they were scanned into the computer for commencement of the digital painting

The geometric designs were carefully done in such a way that the form of the image was not lost. The black pen was used to ensure the precision of the lines, clarity of lines and spaces for easier manipulations when loaded into Photoshop. It also allowed for the effectiveness of the processes of editing, painting, blending, filling in or blocking in the execution of the project works.

Figure 3: Sketch from photograph

4.3. Scanning of Images

All the images or sketches were scanned using an HP Deskjet F2100 All-in-One series. The scanner's resolution was set at 300ppi. All the sketches or drawings were made on A4 sheets; therefore, it was important to set a higher resolution to avoid pixilation when the images are being worked on or printed. After the drawing had been scanned into the computer's Picture file, they were saved in a folder tagged Project Works. This was where the drawings were imported into the Photoshop CS2 for painting to be executed.

4.4. The Digital Painting Techniques

Three techniques were used in the execution of this project. The first was the *Fill-in* technique, the second was the *Superimposition* technique and the third was *Retouching*.

4.5. Tools

The major Photoshop CS2 tools that were used in the execution of the paintings in the project work are as follows:

4.5.1. The Paintbrush Tool (B).

This is used in the painting of all the backgrounds in the superimposition technique works in this project.

4.5.2. The Paint Bucket Tool (G).

It is used to fill colours in the spaces of the sketches in the Fill in technique.

4.5.3. The Eyedropper tool (I).

This is used in picking specific sampled colours from painted parts of the images and the working space for use.

4.5.4. The Marquee Tool (M).

This is used to select the images that were copied and pasted on the background for the sketches or drawings to be painted and edited.

4.5.5. The Colour Palette.

This is where the colours were sampled, mixed and selected from to fill and paint the images.

4.5.6. The Zoom tool (Z).

It is used to get closer to specific parts of the images (zoom in) to work on details and zoom out to see the impression or results.

4.6. The Fill in Technique

4.6.1. STEP 1: Importation of File and Setting the Image

After the program or Photoshop CS2 has been launched, File on the Menu bar was clicked to select and Open the image into the working area. The Open dialog box (the shortcut is by clicking Ctrl O on the keyboard) gives the options to look in saving files in the computer to select which to open. All the reference images or sketches to be painted were in a folder tagged Project Works in the Picture file in the computer. So the image (scan0001jpg) selected in the project works folder was opened. The quality of the output of digital painting to be printed depends on correct settings. Therefore, the reference image was titled Ama, Resolution was set at 300ppi

and saved in Tiff file format (which is compatible with and accepted by most commercial digital printers if not all). Opacity was set at 100 to maximize the quality of the hue. The painting of the image was set in Normal mode. This was to ensure that colours appeared as such. The image was then ready for painting.

4.6.2. STEP 2: Painting the Image

The Paint Bucket Tool (G) was selected from the Toolbox to start the painting process. The Paint Bucket Tool (G) was used to fill in the geometric shapes created within the image. Colours were picked from the various colours on the windows colour palette in the Photoshop CS2 working space. Sampled colours were picked with the Eye Dropper Tool (I). All the spaces (small and large) created within the reference image were filled one after the other starting with the darker tone areas. Each colour was selected for a specific space to create a solid image with the flat colours. The work was a full colour painting with browns and yellows dominating. In order for details to be achieved or making certain that there are no spaces left unfilled with colour, the image was zoomed in to check and to fill those spaces where necessary. During the zoom in, the Hand Tool (H) becomes helpful in moving the image about for details to be worked on.
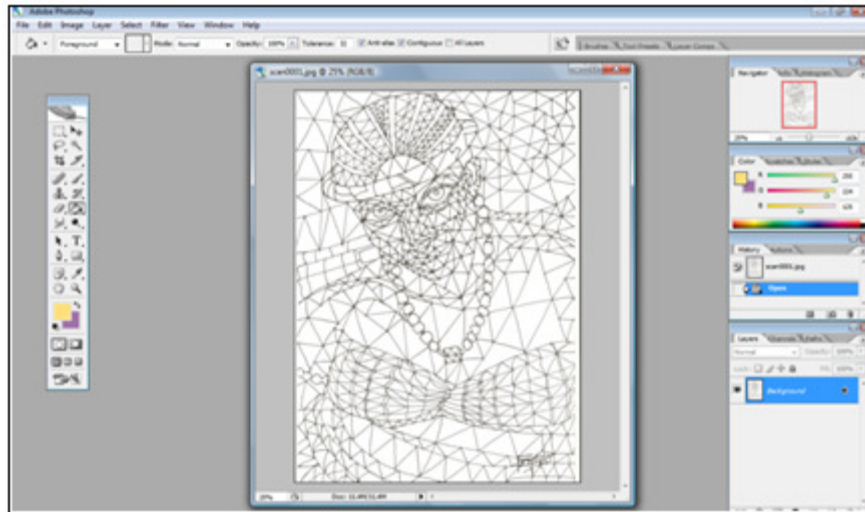

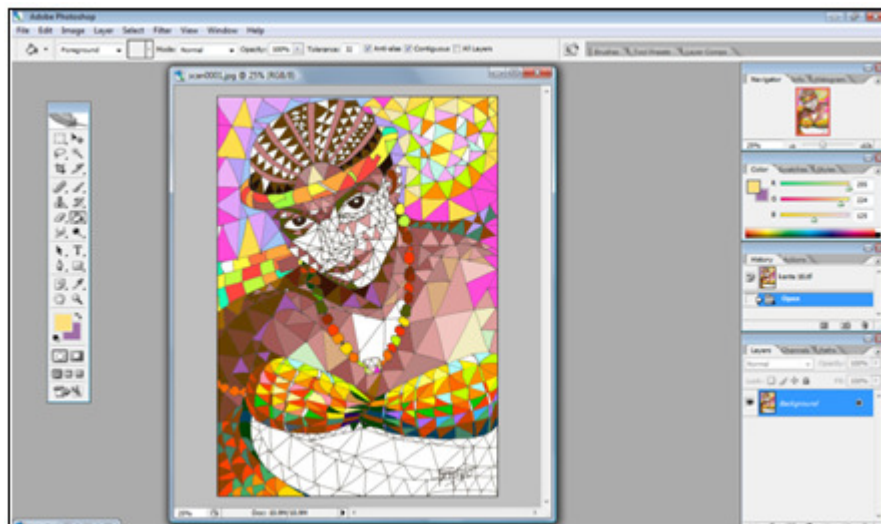*Figure 4: The file/sketch in the workspace*

Figure 5: Filling the geometric shapes using the Paint bucket tool

Even though this technique is simple and straightforward, it is important to have your colour scheme in mind and watch the gradations since the objective or subjective outcome of the portrait depends on it. Mistakes can be corrected, however it must be noted that the Paint Bucket tool only fills spaces with colours, therefore if a space in the workspace is not well demarcated, the colour can spill over the image. Controlling colour spill over is dependent on how well the space is defined when using the paint bucket tool.

4.6.3. STEP 3: Finishing the Image

After painting or filling in all the geometric shapes with colours, the finished work was saved and a copy was made for editing and adjustments to be made on it. Adjustments were made to the finishing painting using the Image and Filter options on the Menu bar. The hue and Saturation were selected (Image > Adjustments > Hue and Saturation) to adjust the overall colour scheme of the painting.

Adjustments of the Image in the Menu give options for various levels of color adjustments such as color balance, match colours and its intensities. The Hue and Saturation were used to intensify or brightened up the colors. Filters option Craquelure as shown in (Filters > Texture > Craquelure) was used to enhance the quality of the texture and the visual impression of the final image to be printed. This filter was chosen after testing many of the filter options. This particular filter (i.e. Craquelure) has a solid unique texture that enhances the output of the painting.
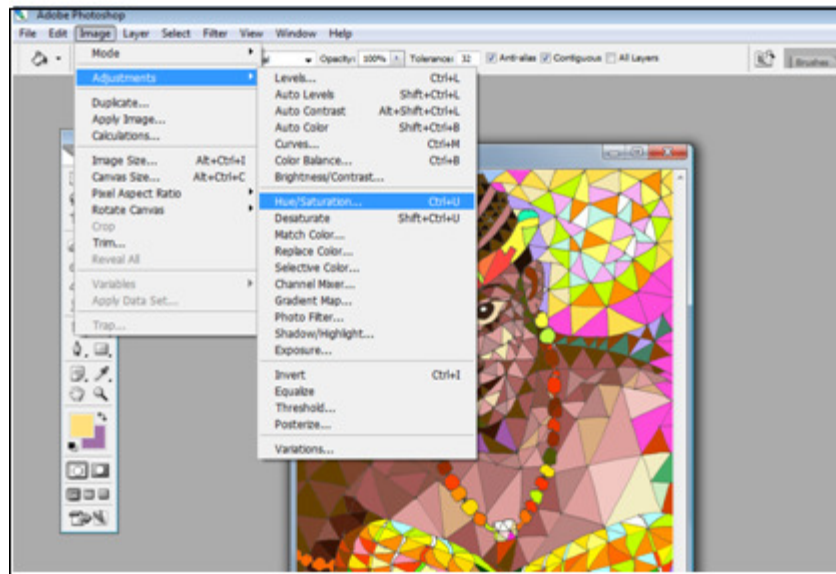
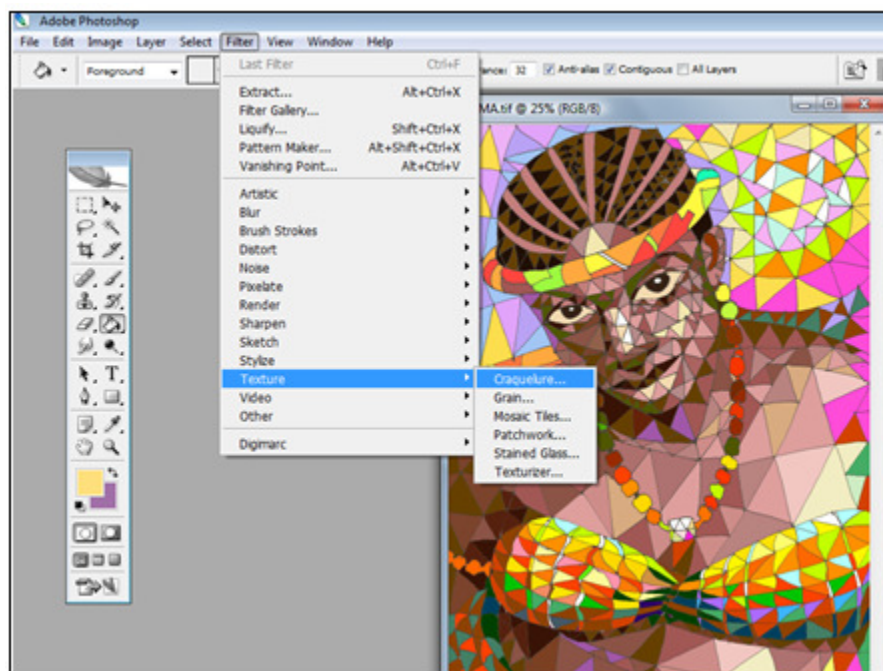*Figure 6: Making adjustments to the colours of the finishing image*

Figure 7: Enhancing the final images visual impression with Filters

4.7. The Retouching Technique

4.7.1. STEP 1: Blending of Images in Layers
This technique is to create complex images or portraits from already painted images. Three painted works were opened. Two were copied and pasted on one of the images. The images were resized to fit on the image serving as the canvas or background layer. The idea here was to make the three images to be seen through each other (transparencies) and finally appear as one work. This idea was achieved by reducing the opacity levels of each of the two images on the background image. The blending options and the reduction of the opacity levels of the images on various layers can be found in the Layers palette. Opacity levels of Layer 1 and Layer 2 were reduced to sixty percent and fifty percent respectively. This was to shows the transparencies of the images beneath. By reducing the

opacity levels of images in layers at appreciable level, it blends them together. The work was flattened after it was satisfactory that the three images could be seen through each other.
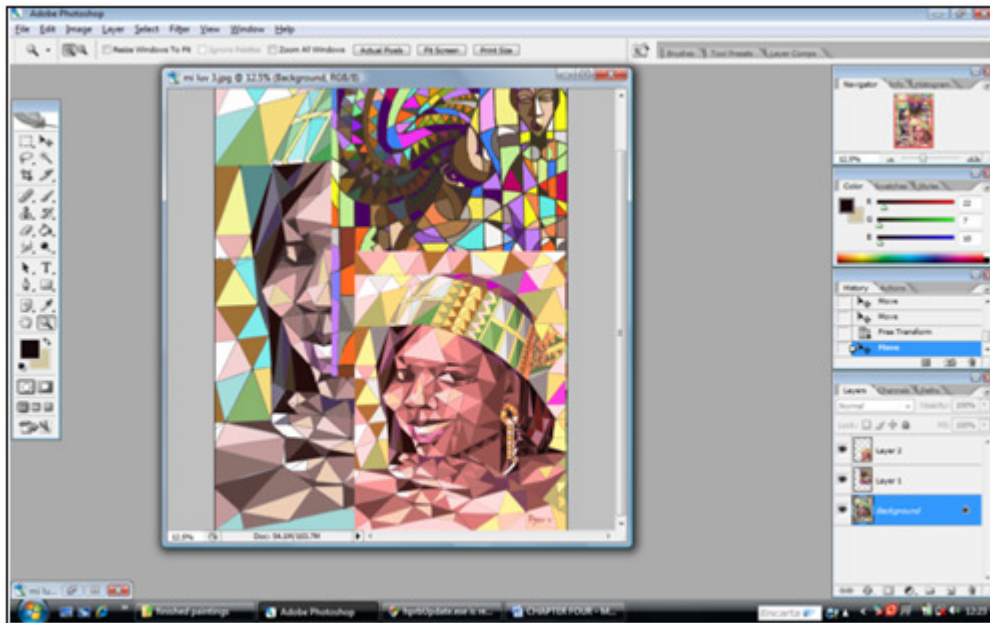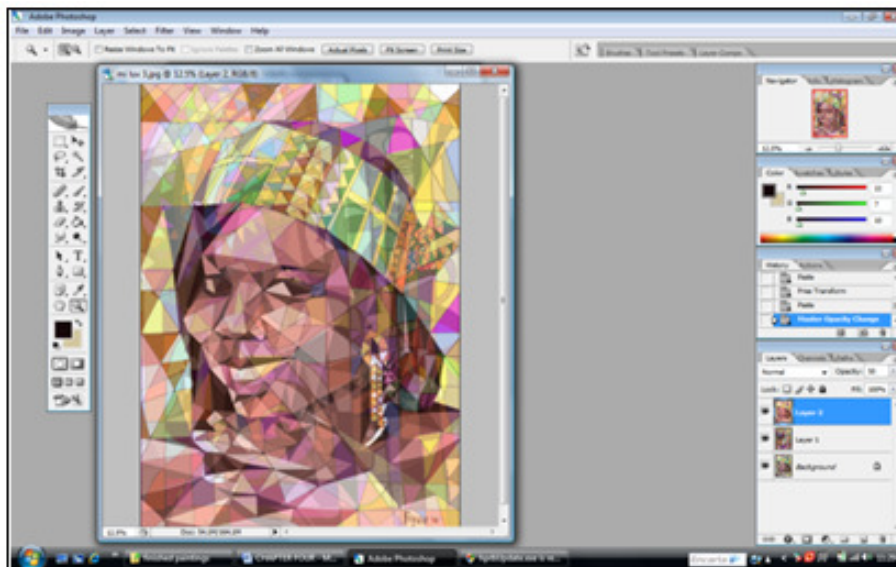

Figure 8: The opened images to be retouched

Figure 9: Reducing opacity levels to show transparencies of layers

4.7.2. STEP 2: Adjustment of the Finishing Image

After the image was flattened, it was blurred. In this case, Image and Filters on the menu bar are two options that can be used to correct the blurred colours in Photoshop. In correcting the blurred image, equalize was used to get the quality of the colours in its intense forms. This was done by selecting Image > Adjustments > Equalize. After equalize, Hue and Saturation from image adjustments was used to adjust the levels of the colour intensities as well. The sharpness of the colours was further strengthened using the Filter's Smart Sharpen. Filters > Sharpen > Smart Sharpen is the process for opening the smart sharpen dialog box and the amount of sharpness of the colours in the image are made. This technique makes the painting process more exciting. The adjustments of the image and the filters are for colour quality and clearer picture when printed. The finished work after it was satisfactory was saved and a copy was test printed to see the actual output of the work. If the test print is not satisfactory, further adjustment is made to get the quality needed.
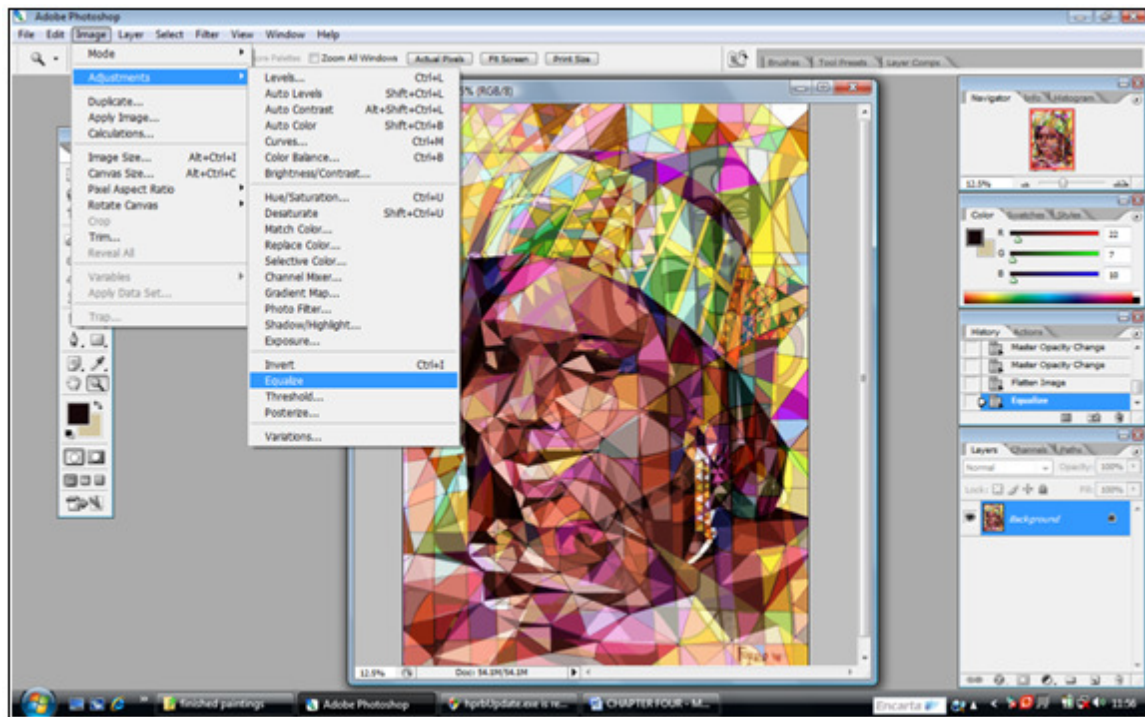
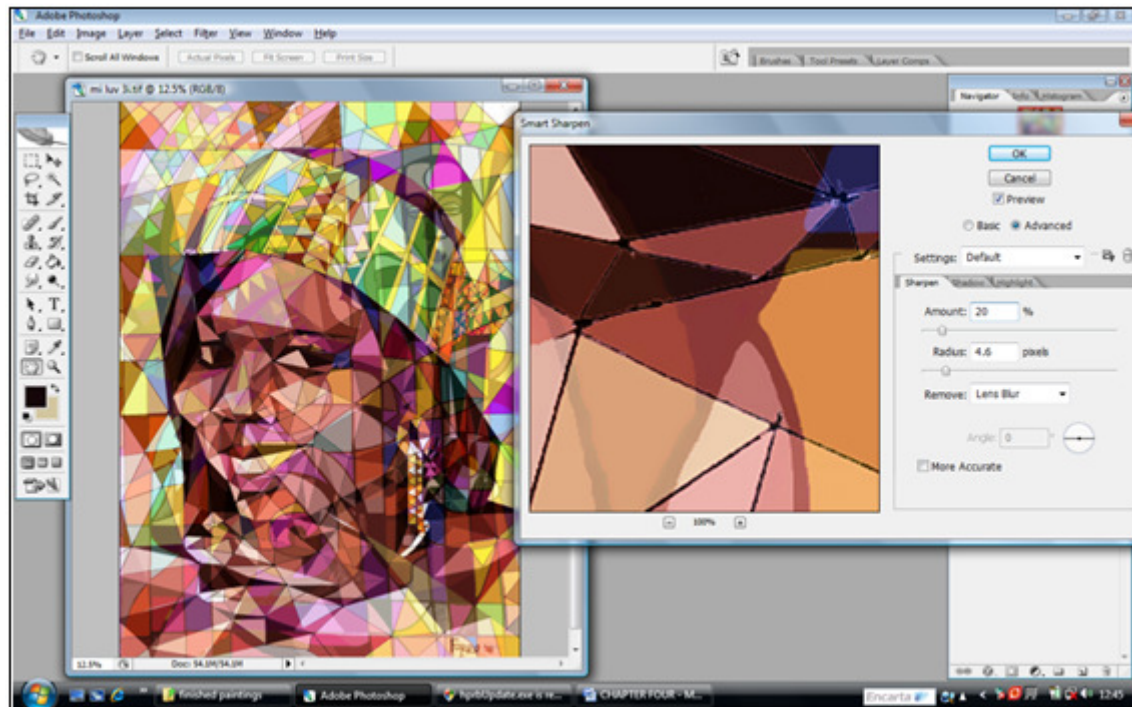*Figure 10: Adjusting the blurred image with Equalize*

Figure 11: Sharpening the colours of the finishing image using filters

5. Conclusion

The project was a challenging and valuable experience transferring the skill acquired in the field of drawing, painting and the knowledge in the manipulation of application software into creative expressions or art works. It is hoped that painting students in the Department of Painting and Sculpture who are interested in digital painting will find this project a valuable source of information. The techniques discussed in the project are not the only ways of doing digital painting, but it is very helpful in creating one's own unique style in digital paintings. Therefore, for those who do not have the tablets and stylus there are ways to still create wonderful digital paintings without sweat. However, it is hoped that the project will whip up the enthusiasm of painting students and other artists in Ghana into the exploration and experimentation of digital painting. It is also hoped that the medium of painting by artists will be geared towards the digital media through this project. Ghana now enjoys abundant digital technologies, from computers and its application software, mobile phones, digital cameras, telecommunication networks, internet, and intranet to extranet. Therefore,

contemporary Ghanaian painters must be seen employing some of these tools and media in their works. This is because the employment of the digital technology for painting gives more options to the artist in idea development, wider palette or more colour options to choose from and mistakes can easily be reversed. This is the era of New Media art, where software for digital painting is no more the problem, it is hoped that up and coming painting students and practicing painters in Ghana who are in the digital media be promoted and exposed to the public by the established art communities.

Digital painting has come to stay as a new area of experimentation and exploration in the field of painting. If one wants to explore in digital painting, the researcher suggests Corel Painter and Adobe Photoshop software. And also get a tablet and a stylus that will make the freehand approach in drawing straight into the computer more enjoyable. Not forgetting digital cameras, scanners, printers, flash drives and compact disks. It is also recommended that high speed computers are used for digital painting. The computers with bigger memory, such as Pentium 4 or M or Intel Duo Core work faster. It is also important to set the resolutions of the digital paintings that will be printed, within the ranges of 200 to 300 pixels per inch (ppi). The quality of output of a printed image depends on its resolution and the resolution of the output device, in this case, the printer. Therefore, studios with high quality digital printers are recommended.

It is also recommended that the Painting Section as a matter of urgency is equipped with an ultra-modern digital painting studio where all the necessary gadgets such as high resolution laser printers, computers with Intel duo core processors, digital cameras, scanners, tablets and stylus plus any other new gadget that is available in the market to enable it train the students effectively. The acquisition of these will enable the department train students with quality hands on experience and ready to face their contemporaries in the digital art world.

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