KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI COLLEGE OF ART AND SOCIAL SCIENCES

FACULTY OF FINE ART

DEPARTMENT OF PAINTING AND SCULPTURE

KNUST

Digital Portrait Painting in Geometric Shapes

By

Agyemang Osafo

February 2011
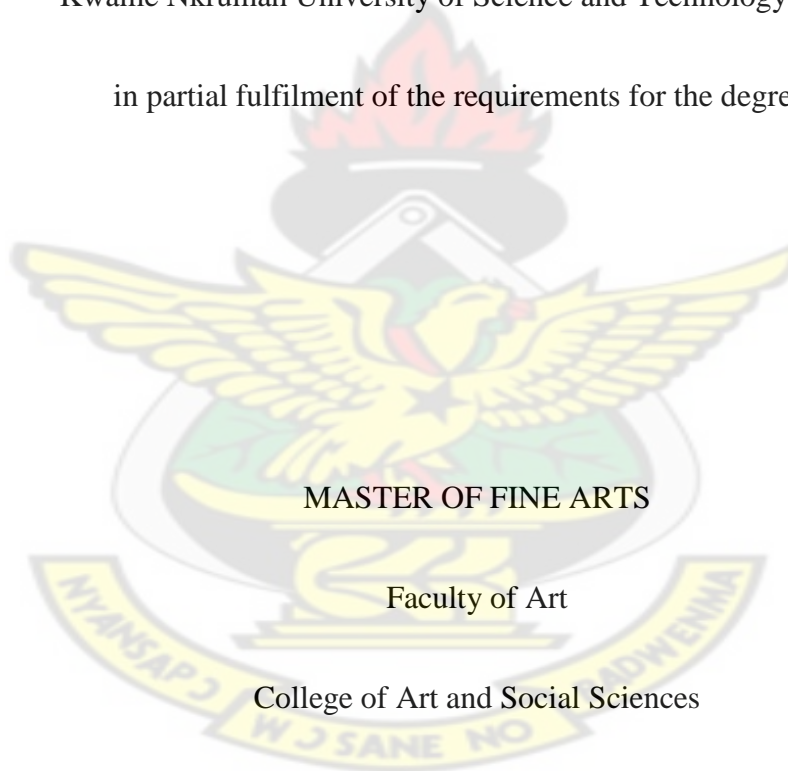
Digital Portrait Painting in Geometric Shapes

By

Agyemang Osafo (BFA Painting)

A thesis submitted to the School of Graduate Studies

Kwame Nkrumah University of Science and Technology Kumasi

in partial fulfilment of the requirements for the degree of

MASTER OF FINE ARTS

Faculty of Art

College of Art and Social Sciences

February 2011

CERTIFICATION

This certifies that this project report is the

candidate`s own account of his research work

………………………………   ....

OSAFO AGYEMANG   DR. GODFRED Y. ANNUM

(INDEX NO.PG2271408)

(STUDENT)   (SUPERVISOR)

………………………   ....

DATE   DATE

Certified by

....

(Signature)

MR. KWAKU BOAFO KISSIEDU

(Name of Head of Department)

Date..

I DEDICATE THIS PROJECT TO MY FATHER AND THE REST OF THE FAMILY.

ACKNOWLEDGEMENTS

ABSTRACT

This project demonstrates three techniques of 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 art work? 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 researcher is to give artists who use the digital technology in painting more stylistic options in the execution of their works and also to add to the already existing techniques in digital painting. The researcher 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 project ultimately aimed at inspiring and motivating more artists in the usage of the digital painting technology in their paintings.

TABLE OF CONTENTS

LIST OF PLATES

PLATE

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

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 area of explorations and the digital art media as tools in the execution of art works. The researcher as an artist believes in the combinations of ideas, the known and unknown, virtual spaces and actual spaces, tangible spaces and intangible spaces and micro and macroscopic spaces to achieve digital representational paintings.

1.2 STATEMENT OF THE PROBLEM

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 skilful 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.

1.3 OBJECTIVES OF THE STUDY

The aim of the researcher 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.

1.4 JUSTIFICATIONS OF OBJECTIVES

The techniques used by professional digital painters directed the researcher to the right ways of using the media in painting to achieve results. The use of geometric shapes in the portrait painting are in the lines of Formalism, Cubism, Zedism, Suprematism and Minimalism styles which are alternatives to Impressionism and Naturalism and it will also add to the various techniques and styles in digital portrait painting. The stylistic effects of the paintings produced should inspire more artists into digital painting. The techniques are meant to make it easier for artists to explore digital painting media.

1.5 DELIMITATIONS

The project was limited to representational portrait paintings in Digital Art using Adobe Photoshop CS2. Most of the created images were portraits of Ghanaian females dressed in traditional Kente cloths. This is because they are fine and hardworking and the excitement and the rich feel of the Kente cloth and its intricate designs. The representations were made in such a way that the central image and its underlying geometry were visibly merged or interconnected. The digital paintings were printed on matte canvas and photo paper.

1.6 IMPORTANCE OF THE STUDY

This document will help inspire and promote the interest of students in digital painting and other digital artists in Ghana. It will help artists to have more options to choose from in digital painting and also in idea development for studio

painting. It will also serve as a body of knowledge and as a reference material for future digital painters.

1.7 RESEARCH METHODOLOGY

Qualitative research was the research design adopted to give detailed descriptions and explanations of the various studies related to the 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. This project employed the descriptive research method to write about the various steps involve in the execution of project works. Observation and interview were the main research tools employed in the project to find out how professional digital painters and students paint with Photoshop.

1.8 ASSUMPTIONS

It is assumed that representational portrait painting in the new media has a major role to play in the Ghanaian society. This is because of the numerous digital painting media or technologies available to the artist that allows quality paintings to be executed at much faster speed. Times have changed from analogue to digital therefore it is assumed that contemporary artists in Ghana should be using the digital art media or technology in the production of art works.

1.9 FACILITIES AVAILABLE FOR THE STUDY

The facilities that were available for the project included;

1. Laptop (Acer Aspire 4720Z Notebook PC).

2. Printer and Scanner (HP Deskjet F2100 All-in-One series).

3. Digital Cameras (Fujifilm 8.2 and EasyShare M753 with 7.0 mega pixels).

4. The College of Art library and the Main library of Kwame Nkrumah University of Science and Technology.

5. The Internet services in Kwame Nkrumah University of Science and Technology and its environs.

6. Selected digital printing studios in Kumasi.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 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 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 (as shown in plate 1) 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 (see plate 2). *Composition VIII No. 260* (1923, Guggenheim Museum, New York City), 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.

He spoke on the support for painting calling it the *basic plane* which according to (Kandinsky, 1911) is in general rectangular or square, thus it is composed of horizontals and verticals lines which delimit it and define it as an autonomous being which will serve as support to the painting, communicating its affective tonality. This tonality is determined by the relative importance of horizontal and vertical lines, the horizontals giving a calm and cold tonality to the basic plane, while the verticals give it a calm and warm tonality. Kandinsky even considers the basic plane as a living being that the artist "fertilizes" and of which he feels the "breathing".

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).

Plate 1. Kasimir Malevich, *Suprematism,* 1916.

Museum of Fine Arts in Krasnodar, Russia.

(Encarta 2008).

Plate 2. Wassily Kandinsky, *"on white II",* 1923.

(wikipidia.com).

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 (see plate 3).

The proponents of minimal art, such as Carl Andre and Frank Stella (see plate 4) on the other hand, were interested in logical systems and universal physical principles (such as mathematical progressions or gravity) rather than individual sensations and their expression. Minimalists favoured the hard, straight lines of industrial design over uninhibited brushwork, and they suppressed evidence of hand craftsmanship in favour of commercial production (Princenthal, 2009). In the end geometric shapes could be seen as the basis of their works.

2.2 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.

2.2.1 Squares and Rectangles

In Flatland, squares are 'gentlemen and professional men' according to Abbott (1984). The Squares and rectangles are according to Kator (2003), the most common shapes in man-made objects.

Plate 3. Piet Mondrian, *Composition with Yellow, Blue and Red*, 1921.

Oil on canvas, 72.5 * 69 cm, Tate Gallery London.

(Encarta 2009).

Plate 4. Frank Stella, *Rozdol II* 1973. Seattle Art Museum.

(Encarta 2009)

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 on black leather and placed by the bed of paramount chief to be stepped on so as to be sanctified. The back-rests 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.

2.2.2 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 being evident in some feminist artist works such as Judy Chicago's *The Dinner Party, 1979* and Faith Ringgold's the triangle is a sign of the goddess an earliest 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 (Kator 2003). 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 by 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.

2.2.3   Circles

In *Flatland,* the **circle** comes with Nobility or Priestly order and it is the highest class of all and it epitomise 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 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 back-rest 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 to a true circle.

2.3 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.

Artists may intentionally alter the appearance of their subjects by embellishing or refining their images to emphasize or minimize particular qualities (physical, psychological, or social) of the subject. Portraiture has broad and varied functions (Mann, 2008). In the Roman Empire (44 BC-AD 476), portraits of the emperor were required to be present in order for court proceedings to take place. Many societies regard portraits as important ways to convey status and acknowledge power and wealth. During the Middle Ages (5th century to 15th century) and the Renaissance (14th century to 17th century), portraits of donors were included in works of art as a means of verifying patronage, power, and virtue. Many societies have employed portraits as a means of remembering the dead.

Early 20th-century artists expanded the repertoire of portraiture (Mann, 2008). Fauvist artist Henri Matisse produced powerful portraits using non-naturalistic, even garish, colours for skin tones. Spanish artist Pablo Picasso painted many portraits, including several cubist portraits, in which the subject is barely recognizable. Expressionist painters provided some of the most haunting and compelling psychological studies ever produced. German artists such as Otto Dix and Max Beckmann, as well as Austrian painter Oskar Kokoschka, produced

notable examples of expressionist portraiture. Mexican artists David Alfaro Siqueiros, Juan O'Gorman, and Frida Kahlo painted portraits that combine the modern influences of expressionism and surrealism with the imagery from popular indigenous art. Portrait production in Europe and the Americas declined in the middle of the 20th century, a result of the increasing interest in abstraction and nonfigurative art (Mann, 2008). English artists such as Lucian Freud and Francis Bacon have produced powerful paintings in which the application of thick paint, called impasto, underscores the force of the subject's personality. 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 on the kind of works produced.

2.4 GEOMETRIC SHAPES AND PORTRAITS PAINTING

Traces of the combination of geometric shapes and portrait of persons in 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 objects visibly was in the period of cubism in the 1900s. And later in America of 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 De stijl, Constructivism, Suprimatism, Minimalism, Formalism, Zedism, Rivivalism, 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.

2.5 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 look 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 analysed, 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 consist of planes that might be semi-transparent and intertwined. The final output might look like an abstract painting, too. (see plate 5 and 6). 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 colours were subdued in their paintings.

2.6 PHOTOREALISM

An art piece might have a message of underlying harmony in it; it might contain a deep meaning to enhance the understanding of the spectators; but the form is necessary. Whereas the Cubists broke down images, analyzed and reassembled, the photorealist drew grids on their photographic images and transferred them on to support as accurately as possible. Photorealism, is an art movement of the late 20th century in America that based their representations on photographs. One of its proponents Chuck Close was one painter who was able to achieve, in his work, two seemingly contradictory goals at once (see plate 7). On the one hand his work is fully representational and on the other hand, it is fully abstract, even non-objective in its purely formal interest in colour, he had it both ways (Sayre, 1997). He imposes grids onto the surfaces of the photographs and, looking at the colours within each section of the grid, he transferred them in exaggerated hues onto the much larger grid marked on his canvas.

2.7 ZEDISM

Zedism is a style of painting in the late 20th century, characterized chiefly by the representational projection of a geometrical z-axis out of the canvas plane and the organization of objects or images within that projection (Yuransky, 2006). It is a painting style whereby a 3-dimensional surface morphology is mapped onto the canvas plane and then utilized to construct imagery. The incorporated imagery may correspond to the geometry created by the surface morphology itself, span across multiple projections independently, or be placed in front of or behind the geometry altogether. The morphology itself can take on an infinite variety of form, from the very homogeneous to the completely random.
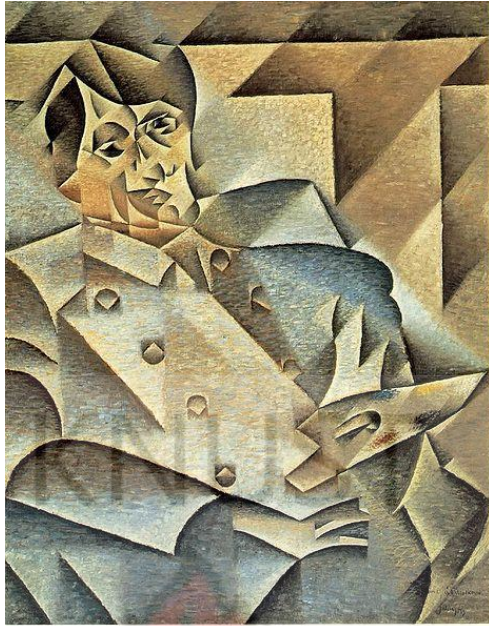
Plate 5. Portrait of Picasso by Juan Gris

(www.wikimedia.org)

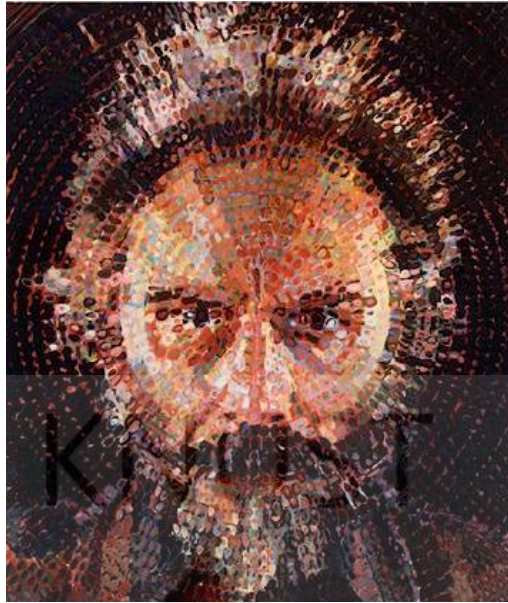Plate 6. Pablo Picasso, *Le guitariste,* 1910

(www.commons.wikimedia.org)

Plate 7. Chuck Close, *Lucas II,* 1987.
91.4 x 76.2 cm (36 x 30 in).

Plate 8. Yuransky, *"Elder",* 2006.
62x72 in, oil and acrylic on canvas.

(www.zedism.com)

A key stylistic ingredient to a successful Zedist piece is the presentation of competition between the central imagery and underlying geometry for the forefront of the viewer's perception (see plate 8).

2.8 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, often having characteristics of being manipulatable, dense, compressible, and impartial ("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 art works 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 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 Ghana 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.

2.9 BRIEF HISTORY OF DIGITAL ART

Digital art is a contemporary art in which computer technology is used in a wide variety of ways to make distinctive works ("digital art", 2008). Digital art was pioneered in the 1970s but only came into its own as a viable art form with the widespread availability of computers, appropriate software, video equipment, sound mixers, and digital cameras toward the end of the 20th century and the subsequent development of increasingly sophisticated digital tools. A boundary-shattering style, digital art can combine and transform such elements as painting, filmmaking, photography, digital design, video, installation art, sculpture, animation, and sound.

Presented on video screens, digital works may be created of abstract or figurative forms in the artists' choice of millions of shades of colour, and may be manipulated so that the images appear, combine, morph, and/or disappear. Digital art also includes works, many of them interactive, made to be viewed on the World Wide Web ("digital art", 2008). Sculpture, too, can be a digital art as a result of rapid prototyping, a technique that "prints out" three-dimensional forms from computer-designed models. Contemporary digital works range from the shimmering and transforming video paintings of Jeremy Blake to the computer-modified imagery of Carl Fudge's screen prints, the shifting geometric panels of

John F. Simon, Jr., and the participatory audiovisual worlds of Janet Cardiff. Among the many other artists involved in the movement, each with his or her own approach to the seemingly infinite possibilities of digital art, are Jim Campbell, Leah Gilliam, Robert Lazzarini, Jim O'Rourke, Paul Pfeiffer, Marina Rosenfeld, Elliott Sharp, Diana Thater, Inez van Lamsweerde, and Adrianne Wortzel.

2.10 DIGITAL PAINTING

Digital painting is an emerging art form in which traditional painting techniques such as watercolor, oils, impasto, etc. are applied using digital tools by means of a computer, a digitizing tablet and stylus, and software such as Corel Painter, Adobe Photoshop, ArtRage, GIMP, and openCanvas. Digital painting differs from other forms of digital art, particularly computer-generated art, in that it does not involve the computer rendering from a model (Eugene, 2009). Professor Achamyeleh Debela on his definition of digital art states that 'I *can speak of the digital art as a computer assisted art and not as a computer generated art.'* He explains that a strong background of traditional manual painting and drawing skills are important and indispensable step towards digital painting (Nupke, 2001). Some say we are now in a postdigital era, where digital technologies are no longer a novelty in the art world. Digital tools have now become an integral part of the process of making art.

2.11 PHASES IN DIGITAL ART

There are three phases in the history of Digital Art according to Lieser, (2006). The first phase was the Pioneers from 1956 to 1986 some of whom were not primarily artists, but computer programmers but whose visual explorations were crucial to the emerging medium. Some of the proponents includes; Yoshiyuki Abe, Thomas Bayrle, Paul Brown; Harold Cohen, Charles Csuri, David Em, Herbert Franke, Laurence Gartel, Sue Gollifer, Jean-Pierre. HébertYoichiro Kawaguchi. Kenneth Knowlton, Ben Laposky, Ruth Leavitt, Manfred Mohr, VeraMolnar, Frieder Nake, George Nees, A. Michael Noll, Lillian Schwartz, Rejane Spitz, Joan Truckenbrod, Roman Verostko, John Whitney Sr., Mark Wilson, Edward Zajec.

The Paint Box era was the second phase (1986 to 1996). In this period, art software became available (slowly at first), attracting artists who could create works without programming. The principal software to emerge during this period was the paint programme, underpinned by affordable computers and devices such as the scanner and film recorder (Lieser, 2006). Some of the artists during this era were, Steve Bell, Paul Coldwell, James Faure-Walker, Jeremy Gardiner, Guillem Ramos-Poqui, Wolfgang Kiwus, Micha Klein, Richard Hamilton, Mike King, William Latham, Barbara Nessim, Gerhard Mantz, Tony Robbin, Olga Tobreluts and Achamyele Debela. Multimedia era was the third face which span from 1996 to 2006, as a result of the growing availability of technologies of interactivity and Internet access, which has brought about democratisation of the medium and new interactive and online art forms. An artist in this era includes Kerry John Andrews (Lieser, 2006).

CHAPTER THREE

METHODOLOGY

3.1 QUALITATIVE RESEARCH

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 sceptical 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.

3.2 WHY QUALITATIVE RESEARCH?

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 qualitative research design were from the above.

3.3 RESEARCH TOOLS

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.

3.4 RESULTS AND DISCUSSIONS

Sixty eight painting students were interviewed to find out if they use Photoshop in their painting and how they approach working with the software. Fifty nine were undergraduate students and nine were postgraduate students all from the Painting Section in the Department of Painting and Sculpture, KNUST. The constant question in the interviews was whether the students use the digital painting media in their art works and how. Observations were made on the approaches to digital painting by professional digital painters. All the undergraduate students interviewed had worked with Photoshop or a digital

painting media before. None had a tablet and a stylus except one. Three of the nine postgraduate students interviewed had not used the digital painting media before. Since the introduction of Digital Art course in 2004, every student trained in the Painting Section to date has been introduced or is aware of digital painting. Therefore the questions were meant to find progress made after the mandatory class assignments in introduction stage.

In the analysis of the data collected from the interviews, almost all the students use the digital painting media (Photoshop) as part of the preparation of images to be painted on separate media such as canvas or paper with pigment such as acrylic paint and oil paint. They use Photoshop to make adjustments of images as form of cartoon for studio painting on canvasses. Students mainly use the media for editing their images with special interest in Photoshop's Filters and Image Adjustments. There were concerns with the difficulty in drawing and painting straight in the computer. Some of students said they painted digital portrait as class assignment and had not found the need to paint with it again. Some are concerned that the impression may not be strong as painting on a canvas and are worried digitally printed works are expensive. Others claim painting with Photoshop is too difficult. Majority of the students claimed painting and drawing with the mouse was uncomfortably difficult and time consuming hence they are discouraged. Others claim they are now learning the new tool and are not comfortable enough to paint with it alone. Four students said they were more interested in digital animation and digital installations than digital painting. Seven students said they did not have the finance to purchase facilities for digital painting even though they were very interested in it.

Looking at the digital portrait paintings which are mostly on the internet, the representations are based on the imitation theory see plates 9, 10 and 11. There are several tutorials online on digital portrait painting. However, there is one common trend to the digital portrait painting process online and that is ...take an image, choose brushes, draw essential parts, choose colour scheme and paint straight on the computer. Digital painters such as Professor Acha Debela, Robert Chang, Elin Jossefson, Ailidh, Padisio, Robert and Hasans mostly online from sites such as deviantart.com works were observed. For example Elin Jossefson paint portraits with Photoshop by setting the canvas size of the image he wants to paint and then paints the background to his satisfaction. He sets another layer on top of the painted background and names it Sketch, on which the drawing of the image is done. And he sets a third layer after the Sketch and names it Render where the actual painting takes place with a digital paintbrush or stylus. He sometimes sets a fourth layer if there are shadows he wants to achieve in the painting. This approach to digital painting is used by most of the digital painters online.

On the other hand, Acha Debela approaches his digital paintings in two ways; Firstly, he traditionally paints a series of paintings in acrylic, oil or pastels and takes photographs of them with the digital camera. He then loads them into computer or scans photographs taken with the still camera. The images, after becoming data, can be recalled and manipulated at will. He selects part of the original images to concoct and create a new image and a new painting. Secondly, he creates images on the computer directly, without input from outside the computer. In this case, he solely uses the tools and colours provided by the software he employs.

Plate 9. Padisio, *Angelina Jolie,* 2009. Digital Painting.
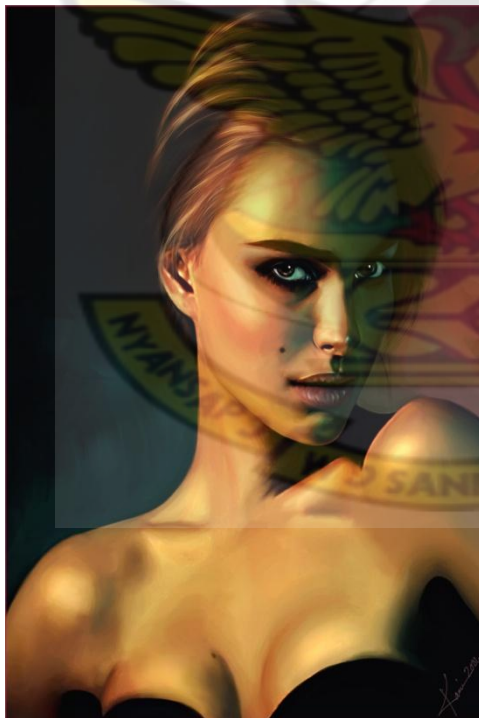(www.symphonetworks.com)

Plate 10. Ailidh, *Natalie Portman*
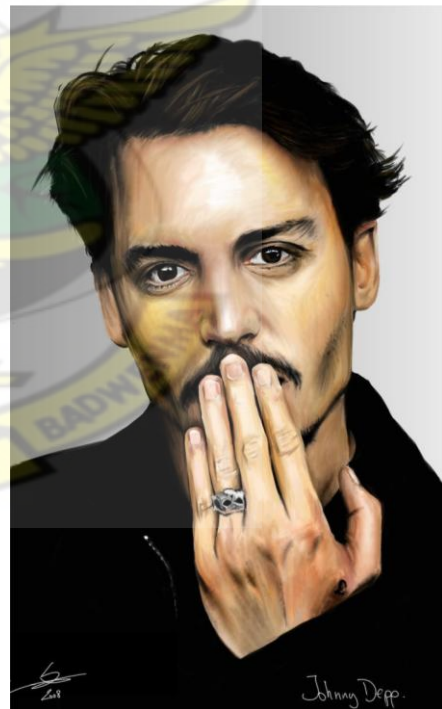2009. Digital painting.
(www.mymodernmet .com)

Plate 11. Monkey-Jack, *Johnny
Depp,* 2008. Digital painting.
(www.deviantart.com)

CHAPTER FOUR

PROJECT EXECUTION

This section of the project report describes techniques and the processes that were used in the execution of paintings of the project work and earlier experimental works.

4.1 EARLIER EXPERIMENTAL WORKS

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 as shown in plates 12, 13 and 14. Later works of other professionals in the field of digital painting such as Acha Debela were researched into as discussed in chapter three. 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 then 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.

Plate 12. Forro, *Scene from Daboja,* 2006. Photoshop 7. (size 25" x 15")

Plate 13. Forro, *Portrait of Mr. Amofa,* 2007. Photoshop 7(size 11" x 14").
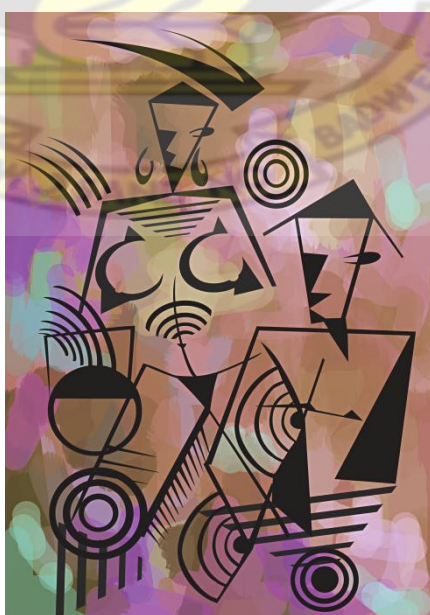

Plate 14. Forro, *Ama & Kofi,* 2009. Illustrator & Photoshop 7. (size A4).

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, sets 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 2b pencil on an A4 sheet of bond paper before 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 (see plate 15).

Rough sketches were made from the photographs as the reference images. These images were carefully reconstructed with geometric shapes (see plate 16). This was done using the black ball pointed pen, ruler and a set square. 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 lines, clarity of lines and spaces for easier manipulations when loaded to Photoshop (see plate 16). It also allowed for the effectiveness in the processes of editing, painting, blending, filling in or blocking in the execution of the project works.
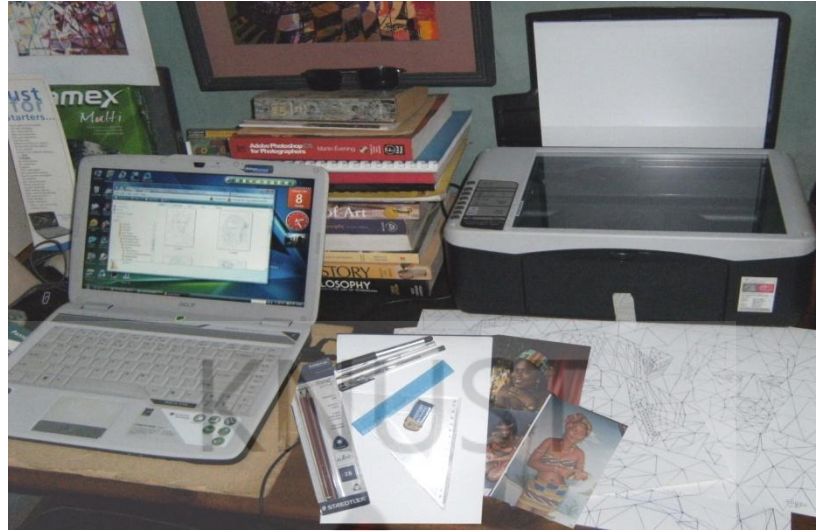
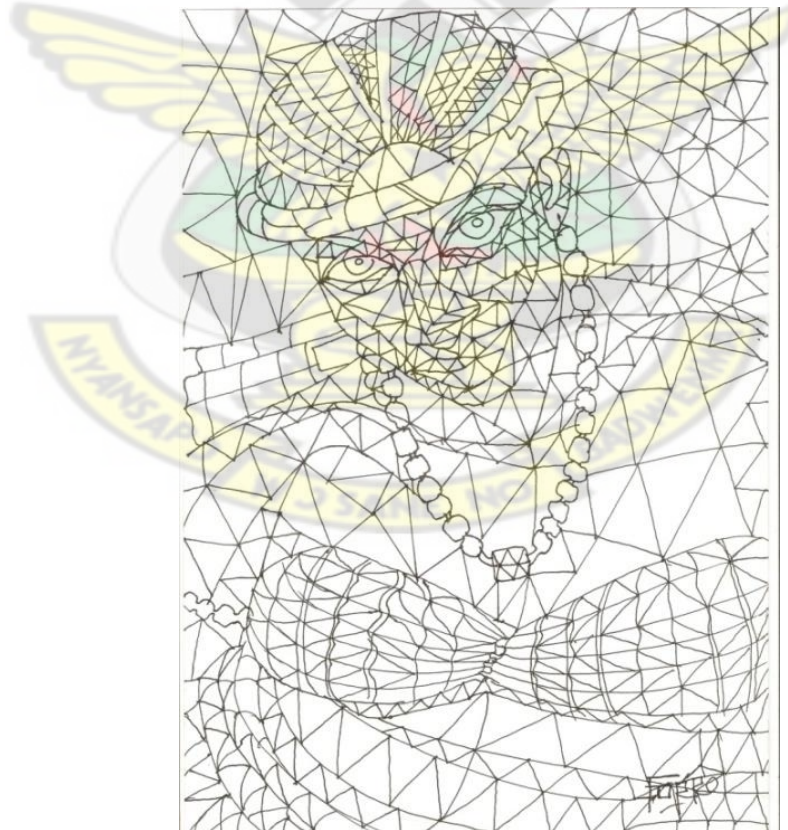Plate 15. Photograph of tools & materials for project work.

Plate 16. Sketch from photograph

4.3 SCANNING OF IMAGES

All the images or sketches were scanned using 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 been worked on or printed. After the drawing had been scanned into the computer's Pictures 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*.

4.4.1 The Fill-in Technique

In the Fill-in technique, the sketches or drawings are painted using the Paint Bucket tool to block spaces with colours. With this technique, the fillings are done straight away after the image is opened in Photoshop. This style is very simple and straightforward since most of the work is done at the drawing stage.

4.4.2   The Superimposition Technique

In the Superimposition technique, a new canvas is opened in Photoshop and the background painted with a brush (Paintbrush Tool). A sketch is opened and

42

pasted on the painted background, which is later edited and blended into the prepared ground. In this technique, the final image or painting has to be flattened since the format involves the use of layers.

4.4.3 The Retouching Technique

In the Retouching technique, finished paintings, photographs and drawings are used to create a new painting. In this technique, new paintings are created through repetitions of images, cutting and pasting of parts of the paintings, reflections, adjustments, hiding some parts of the image and showing some parts, reducing the opacity levels of the images, juxtapositions, superimpositions and transparencies. The retouched paintings are more complex technically and visually. This style is a complex way to create digital portraits or pictures in Photoshop rather than just the making of corrections.

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 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 as shown in plate 17. The Open dialog box (the shortcut is by clicking Ctrl O on the keyboard) gives the options to look in saved 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 Pictures 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 as shown in Plate 18. 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.
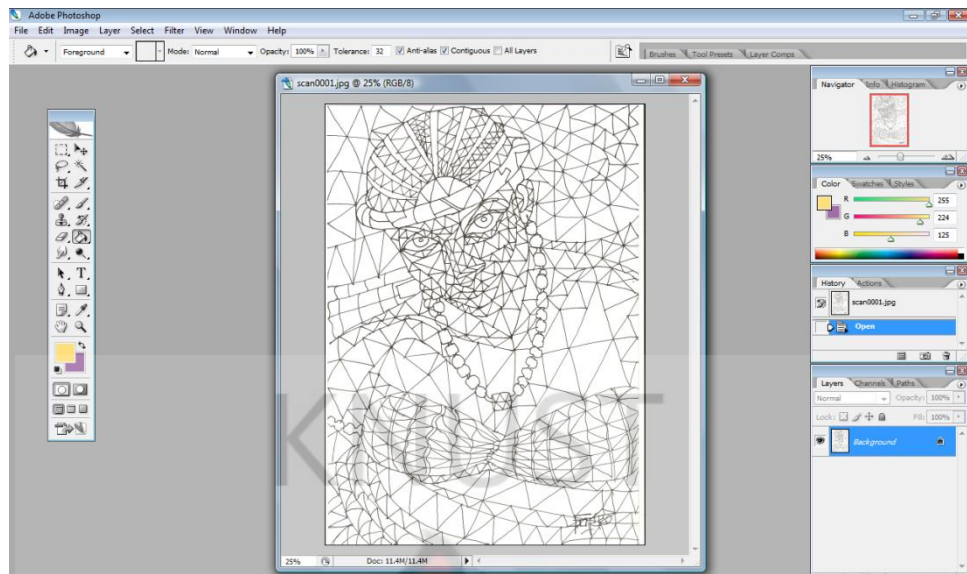
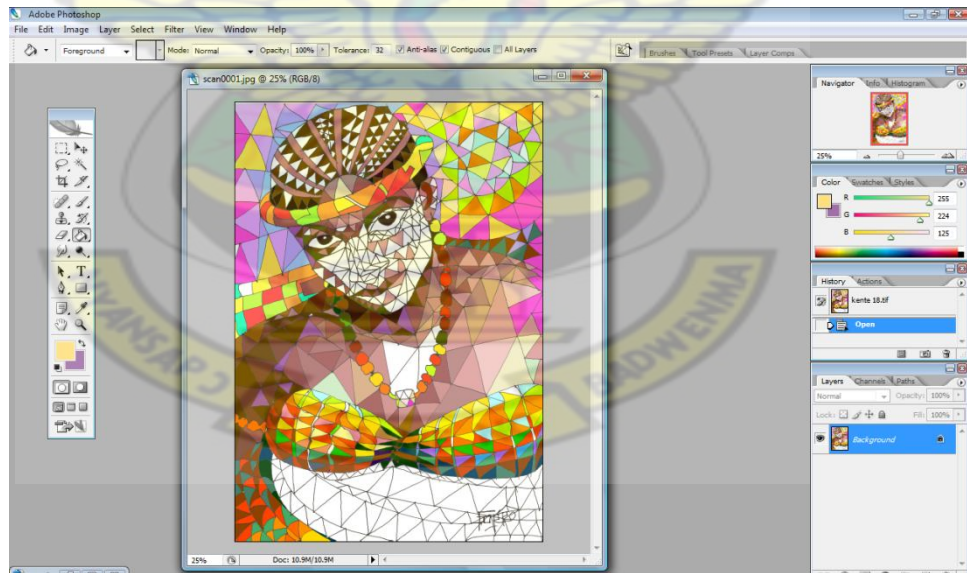Plate 17. The file/sketch in the workspace.

Plate 18. 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 work space 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. Hue and Saturation was selected as shown in plate 19 (Image > Adjustments > Hue and Saturation) to adjust the overall colour scheme of the painting. Adjustments of the Image on the Menu gives options to various levels of colour adjustments such as colour balance, match colours and its intensities. The Hue and Saturation was used to intensify or brightened up the colours. Filters option Craquelure as shown in plate 20 (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.
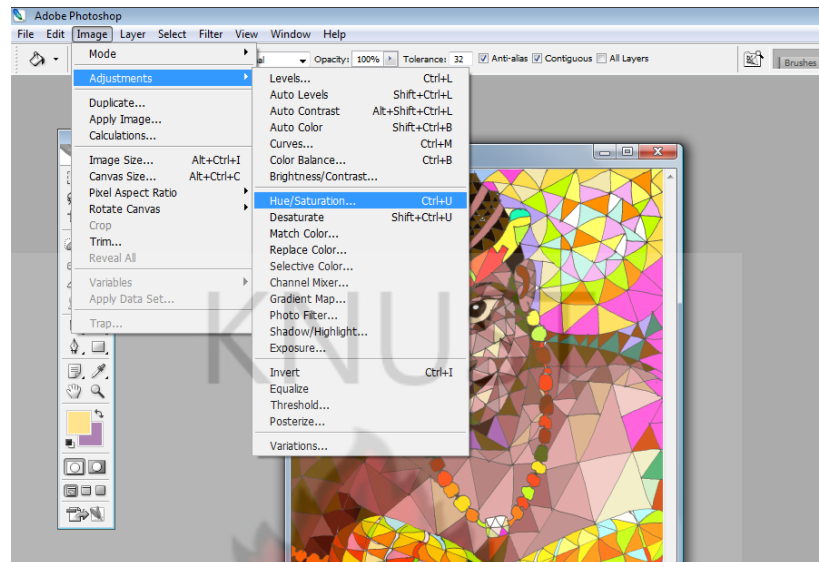
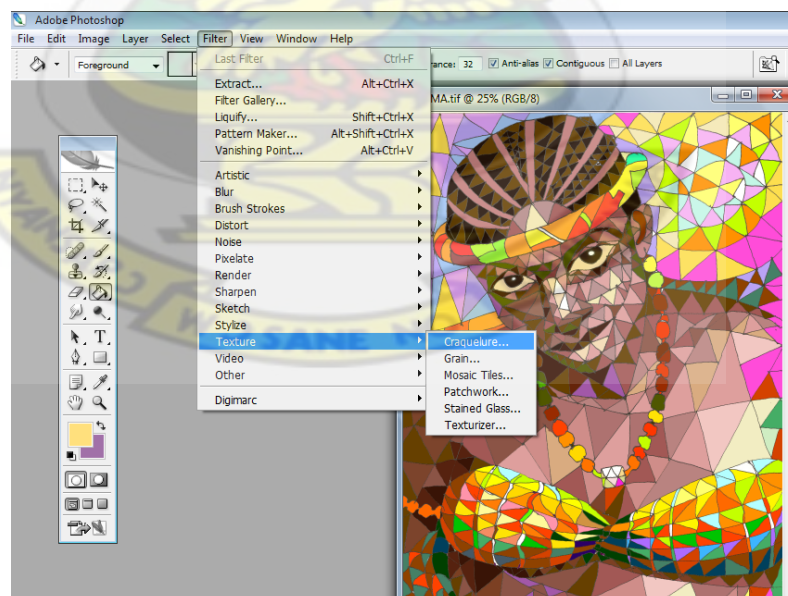Plate 19. Making adjustments to the colours of the finishing image.

Plate 20. Enhancing the final images visual impression with Filters.

4.7 THE SUPERIMPOSITION TECHNIQUE

4.7.1 STEP 1

Setting and Painting the New Canvas

File on the Menu bar was clicked and New was selected to set a canvas for the painting to begin. The canvas size was chosen and titled 'bagrund', the resolution was set at 300ppi, the Mode was set to RGB and the background colour was set to white before clicking on OK to apply the settings. It is important that settings are done correctly to avoid any output that will lessen the quality of the image when printing. After, satisfied with canvas setting, the Brush tool (B) was selected from the Toolbox and used to commence the background painting as shown plate 21.

Colours were selected from the Colour Picker. On the other hand, colours can be picked from the Colour Palette in the workspace. By double clicking on the foreground colour icon in the Toolbox it opens the Colour Picker or clicking on the various colour options from the Colour Palette to select a particular shade of colour. The background of the canvas was painted using various sizes of the Paintbrush tool (B). The background was painted with warm colours dominating until it was satisfactory as shown in plate 22. The digitally painted background was minimized and after a drawing file was opened from the project works folder.
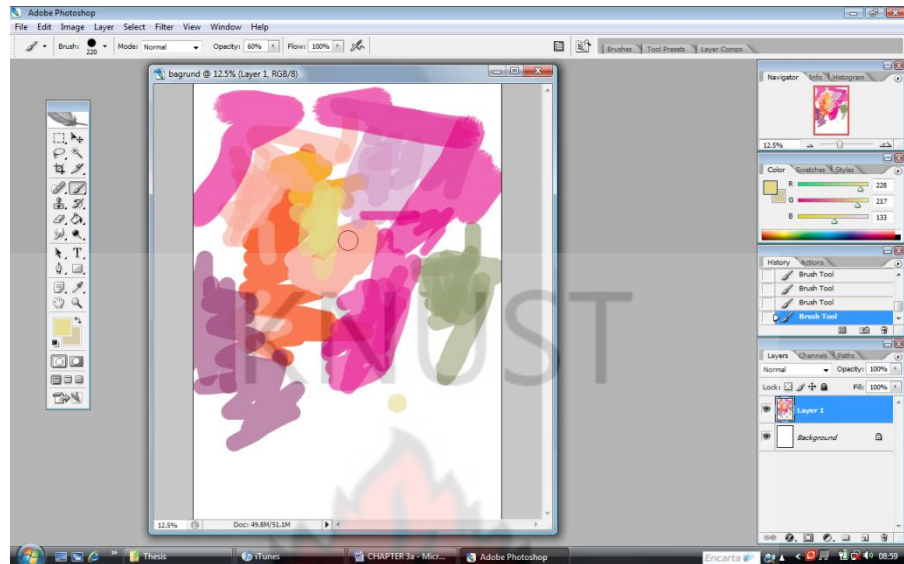
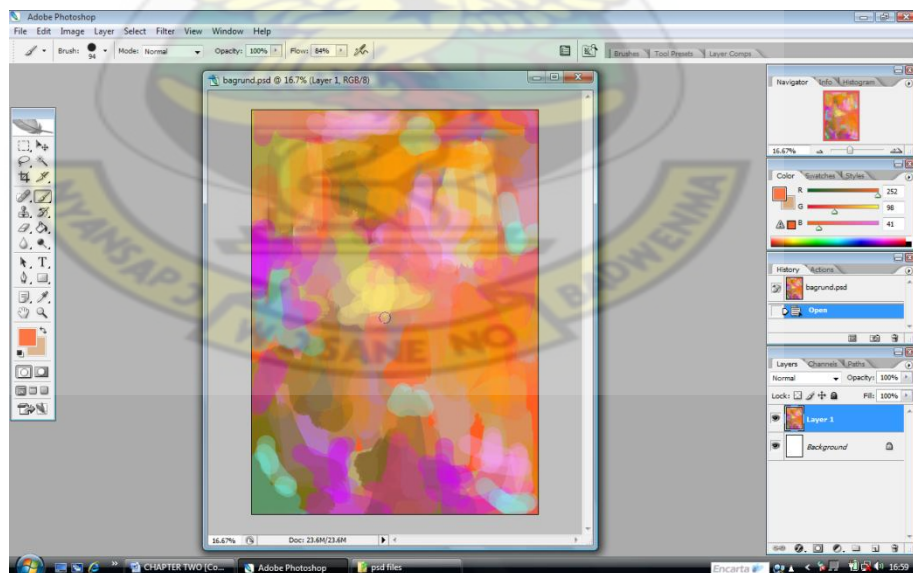Plate 21. Painting the new canvas with the Paintbrush tool.

Plate 22. The painted background

4.7.2 STEP 2

Editing of the Sketch.

The sketch or drawing file was opened from the project works folder. And with the help of the Rectangular Marquee tool (M) from the toolbox or Ctrl A on the keyboard, the sketch was selected and copied by clicking Ctrl C from the keyboard or Copy from Edit on the Menu bar. The sketch after copying was minimized and the digitally painted background was maximized to the working space. Then Ctrl V on the keyboard was clicked or Paste from Edit on the menu bar was selected to paste the sketch onto the painted background as shown in plate 23. Since the canvas was bigger than the sketch (shown in plate 23), the image was resized to fit onto the painted canvas using the Free Transform (T) from Edit on the Menu bar or by clicking on Ctrl T from the keyboard. After clicking on Ctrl T, the anchor points on the edges are dragged to transform the size of the image to fit on the canvas. Enter on the keyboard was pressed to apply the transformation settings. The darkness level of the image was adjusted as shown in plate 24.

4.7.3 STEP 3

Blending the Image into the Ground

After the drawing file has been transformed, it was blended into the painted background. In the fill in technique, the image was painted after it was opened in the work space so there was no need for the use of layers. Since the background is already been opened before the sketch or drawing file was pasted on, it is a layer.
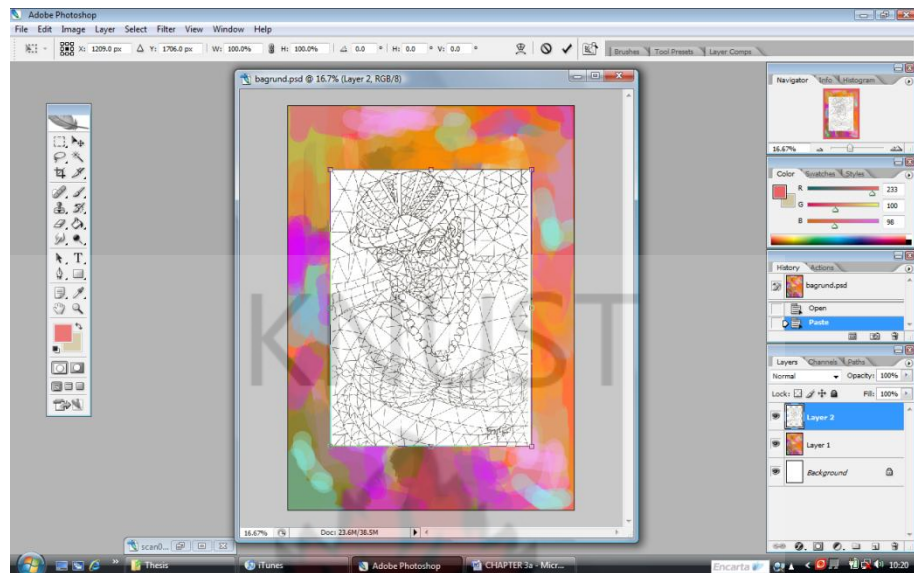
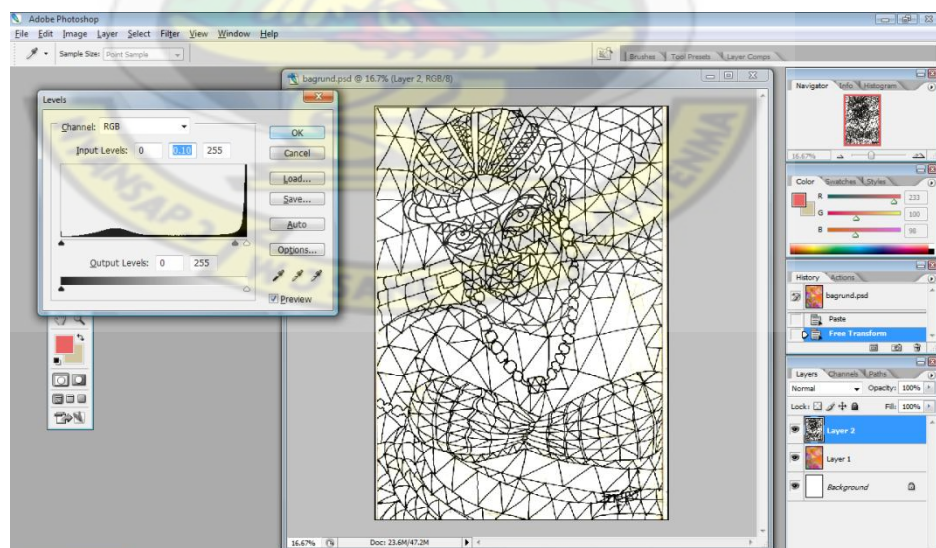Plate 23. Pasting and transforming sketch to fit on painted canvas.

Plate 24. Adjusting darkness level of image.

The Photoshop CS2 is such that after setting the background layer, any opened new file or image opened or pasted on the canvas automatically takes a new layer. Some professionals prefer to assign names to layers but Photoshop CS2 also gives automatic labels to the layers (such as Layer 1, Layer 2) in the ascending order. The automatic labelling was allowed to work. The drawing file was blended into the painted background by removing the negative (white) areas from the image using the Layers blending options as shown in plate 25. By right clicking the selected layer in the layers palette, blending options is selected to open the Layer Style dialog box. This is where the settings are done. The blend mode was set to normal, opacity level was set at 100 and the slider of 'This Layer' was used to blend the drawing into the background. In blending images in Photoshop, the layer option gives dark and light sliders which are used to remove the lighter or the darker areas of the image or file. By moving the white slider, any white colour or any lighter tones from the selected layer's image is removed and the black slider removes the black colour or darker tones from the layer's image.

4.7.4 STEP 4

Adjustments of the Finishing Image

With the Magic Wand tool, the positive areas of the sketch was selected and masked to enable the lines to be thickened by using Stroke from the Layer style palette. After thickening the strokes of the image to make it bold, it was flattened to allow further adjustments to the finishing portrait. When layers are flattened, it allows further adjustments to affect the whole work as one unit.
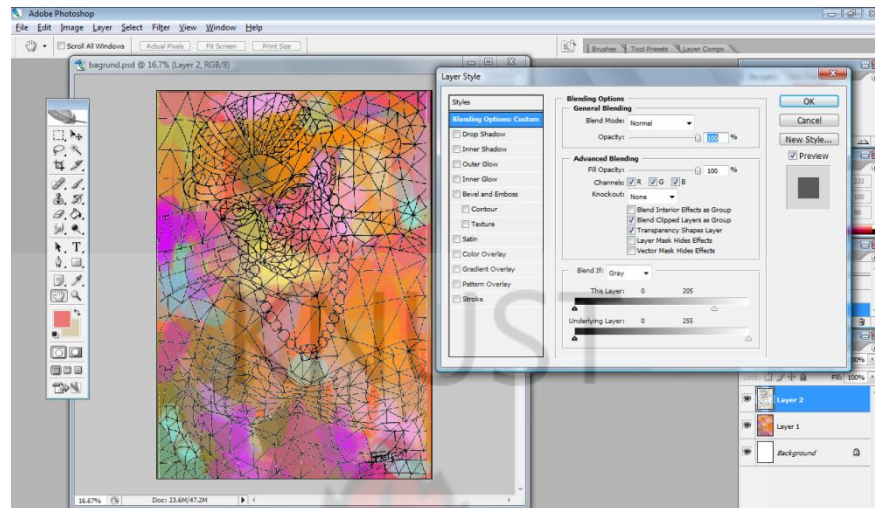
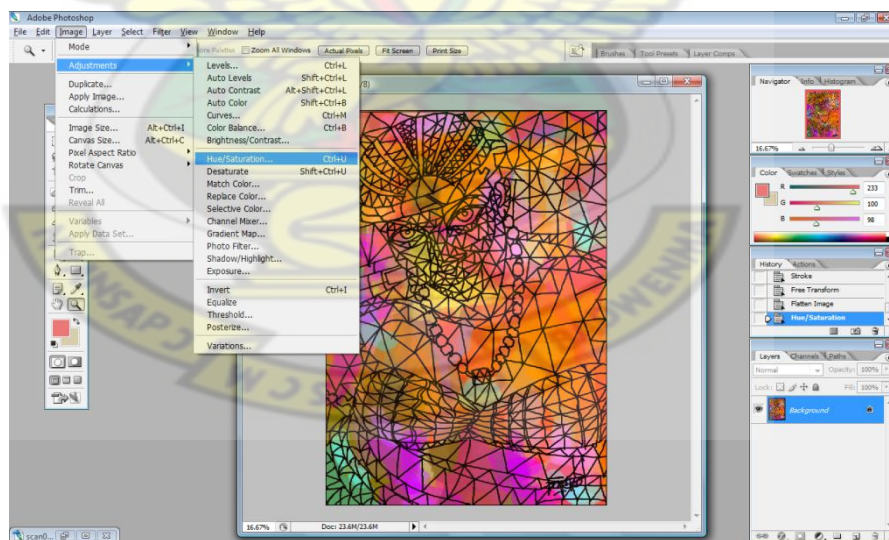Plate 25. Blending in the sketch into the painted background.

Plate 26. Adjusting the colours of the final image

If the images are in layers, any adjustments made affect only the selected layer. After blending in, the image looked dull in colour therefore the colours were adjusted to enhance its quality. Adjustments were made to the colours using Hue and Saturation. The final image was then filtered with Smart Sharpen to enhance the sharpness of colours. This was done by selecting Filters > Sharpen > Smart Sharpen.

4.8 THE RETOUCHING TECHNIQUE

4.8.1 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 as shown in plate 27. 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 be seen through each other (transparencies) and finally appear as one work as can be seen in plate 28. 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.
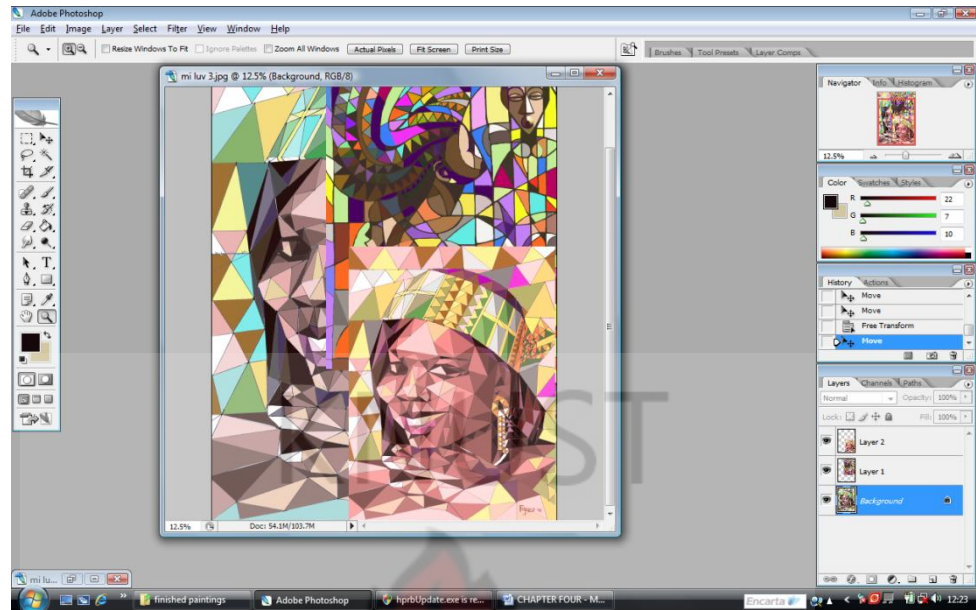
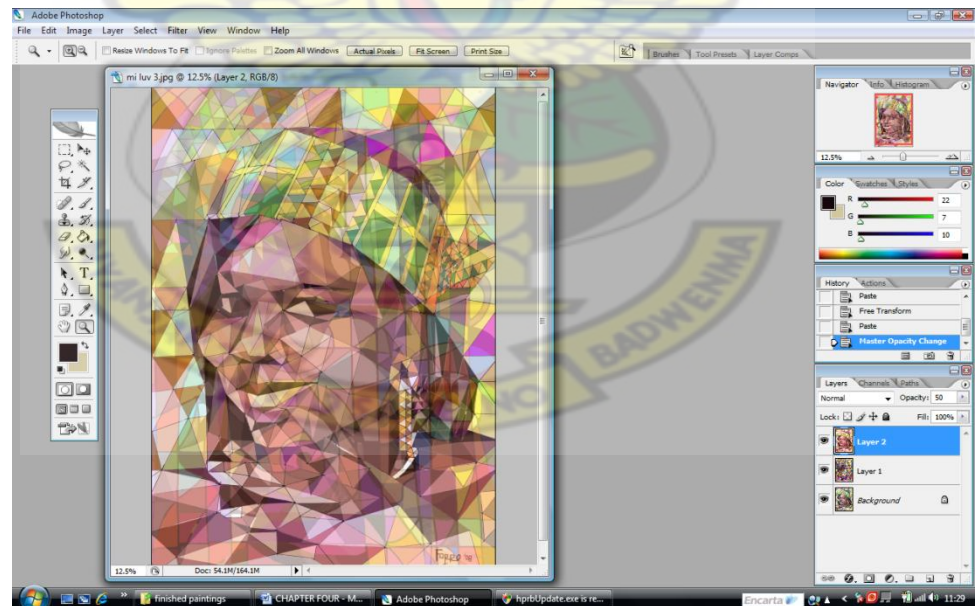Plate 27. The opened images to be retouched.

Plate 28. Reducing opacity levels to show transparencies of layers.

4.8.2 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 as shown in plate 30. 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.
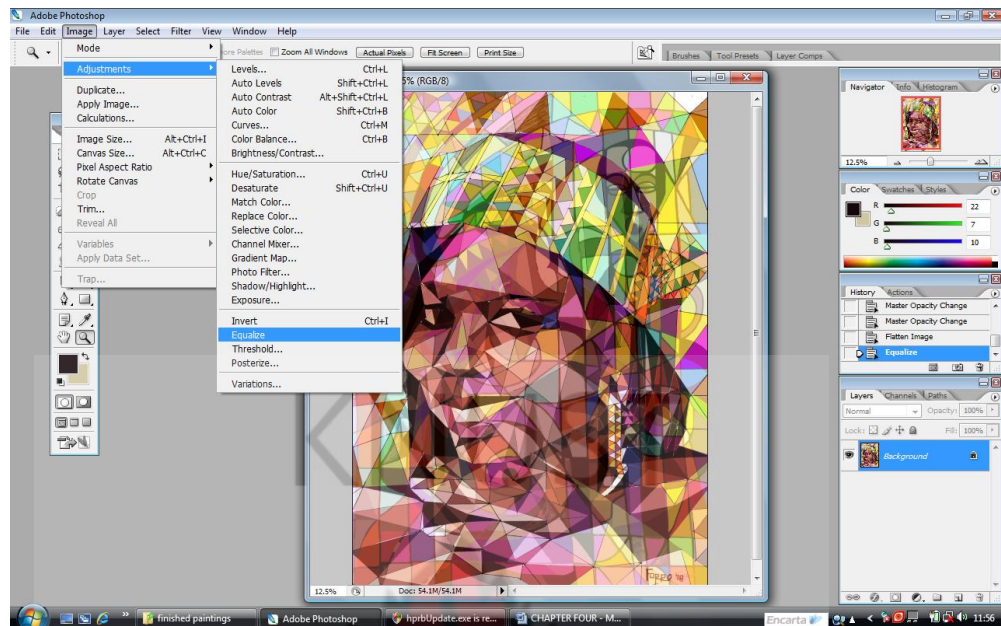
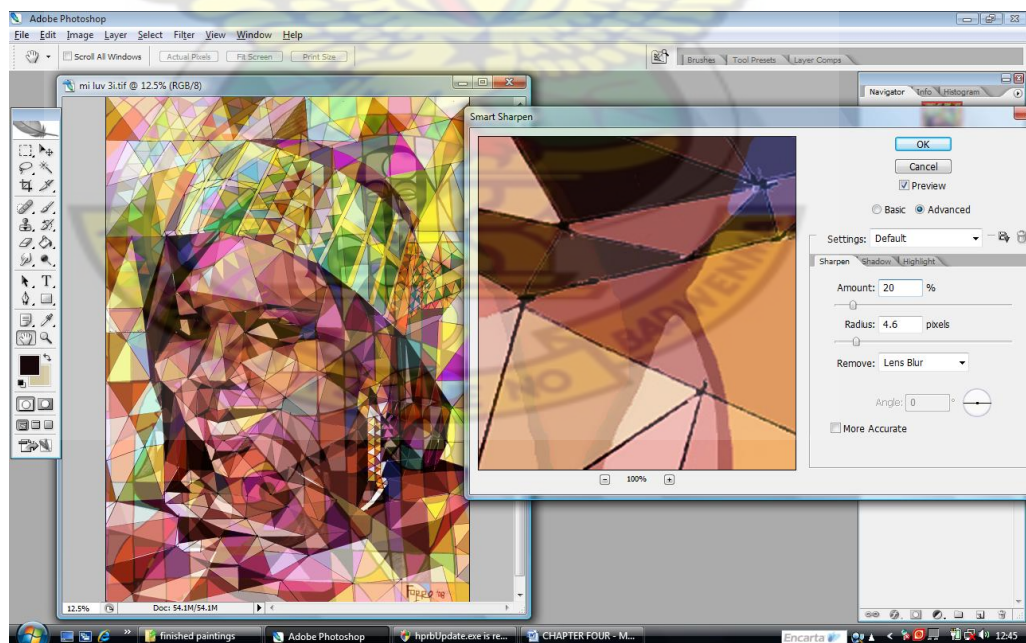Plate 29. Adjusting the blurred image with Equalize.

Plate 30. Sharpening the colours of the finishing image using filters.

4.9 SELECTED WORKS

The procedures were fundamental to the representational paintings in the project. The final images were printed in the studios of Arkhov in Kumasi. And below are some of the results from the digital art works executed for the project.

Plate 31. *Abena*, 2009 A0 Matte canvas. Photoshop

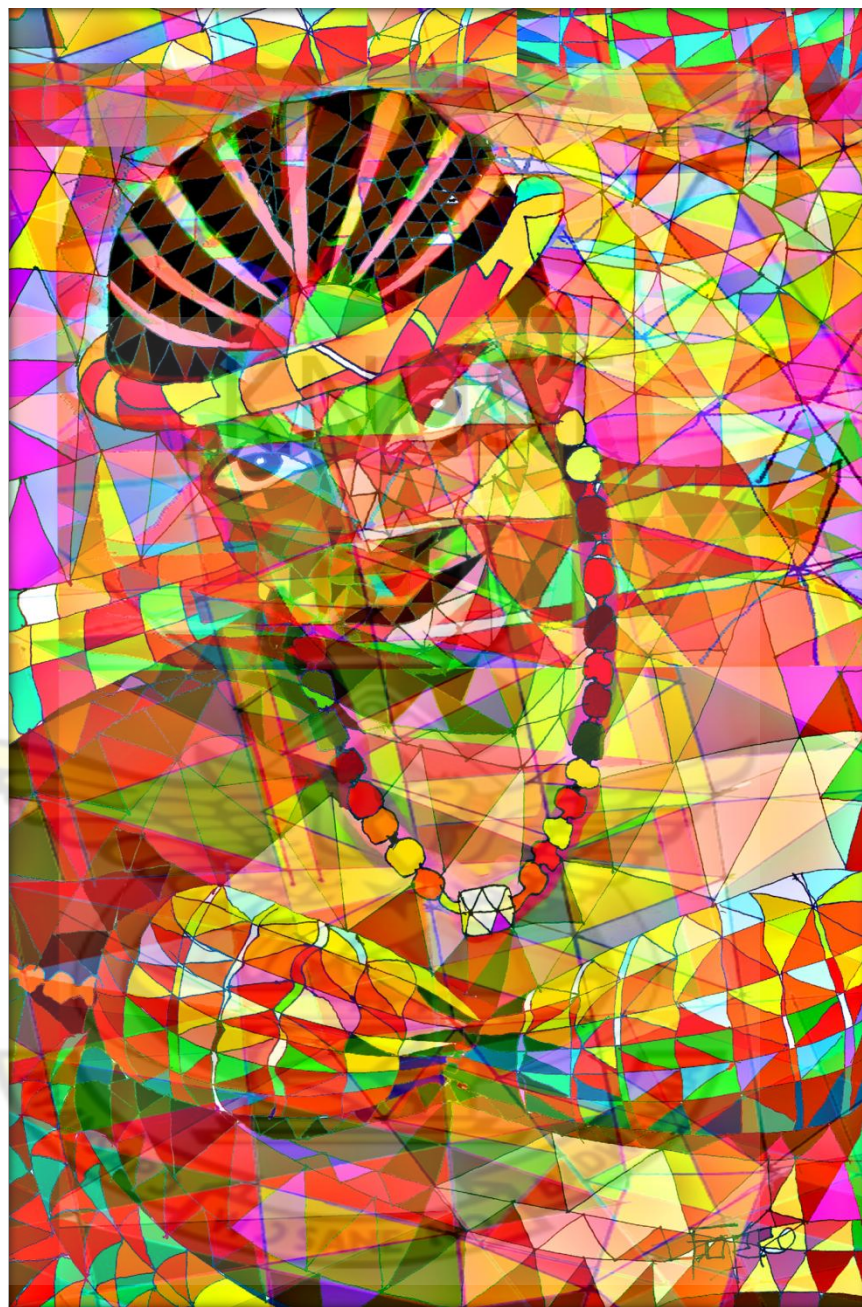Plate 32. *Bog*a, 2010. A2 photo paper. Photoshop

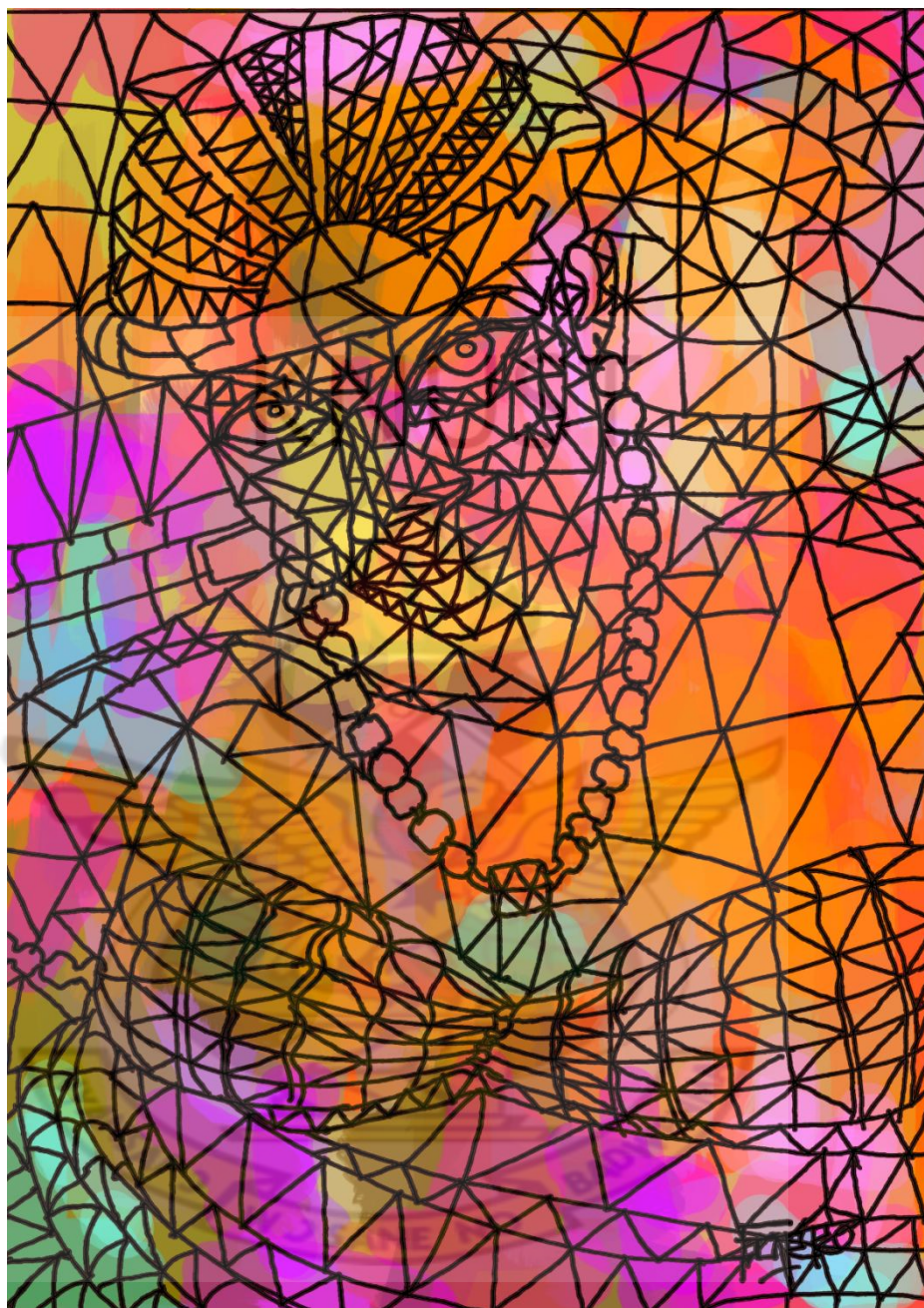Plate 33. *Am*a, 2009. Size A2. Photo paper. Photoshop.

Plate 34. *Untitled*, 2009. A2 photo paper. Photoshop.

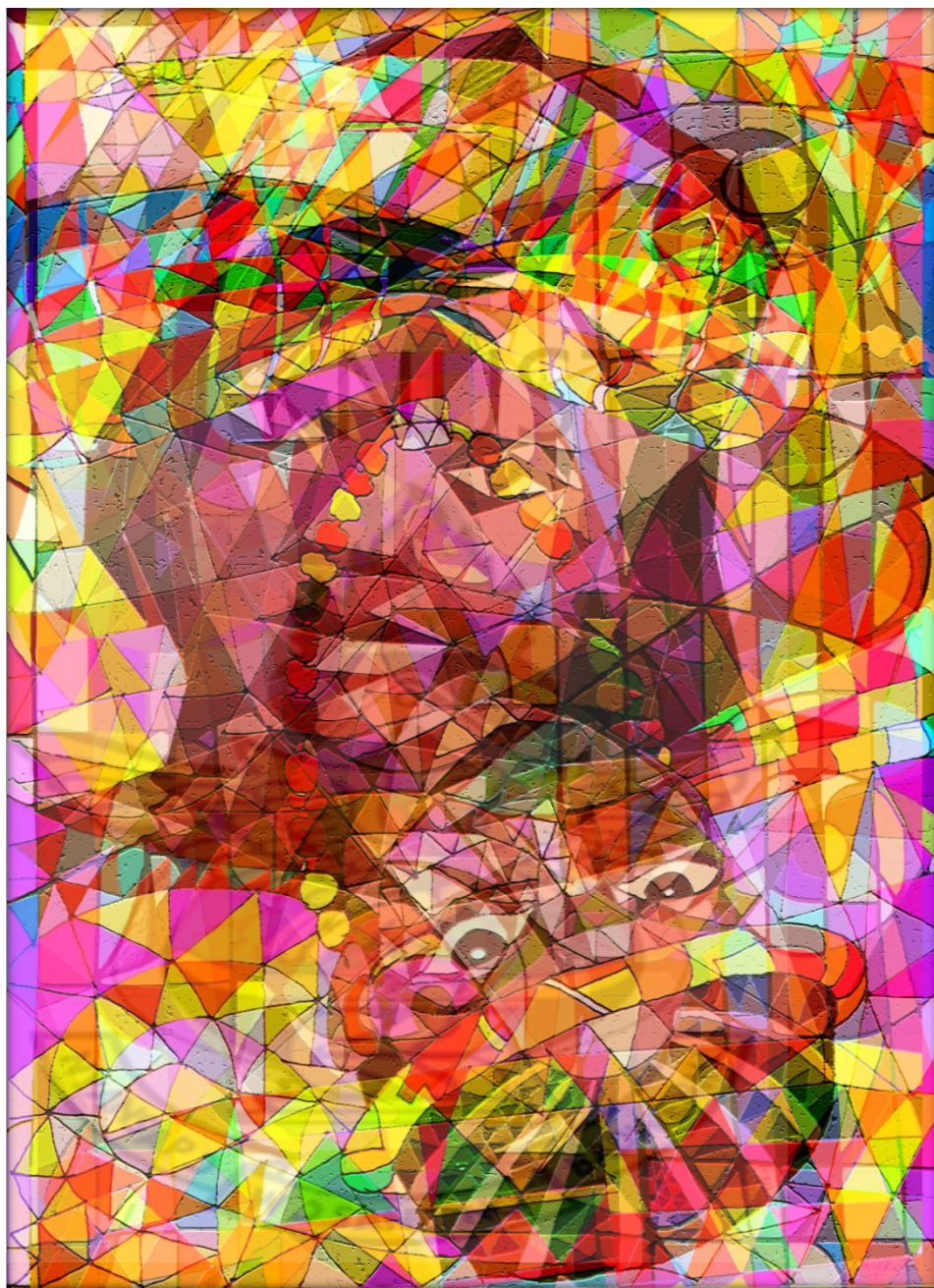Plate 35. *Mansa*, 2008. A2 matte canvas. Photoshop

Plate 36. *Abena ne Yaa*, 2009. A2 photopaper. Photoshop.

Plate 37. *Abena 3,* 2009. A2 Matte Canvas. Photoshop.

Plate 38. *Mansa`s joy,* 2010. A2 photo paper. Photoshop.

Plate 39. *Sister Rita,* 2010. A2 Matte canvas. Photoshop.

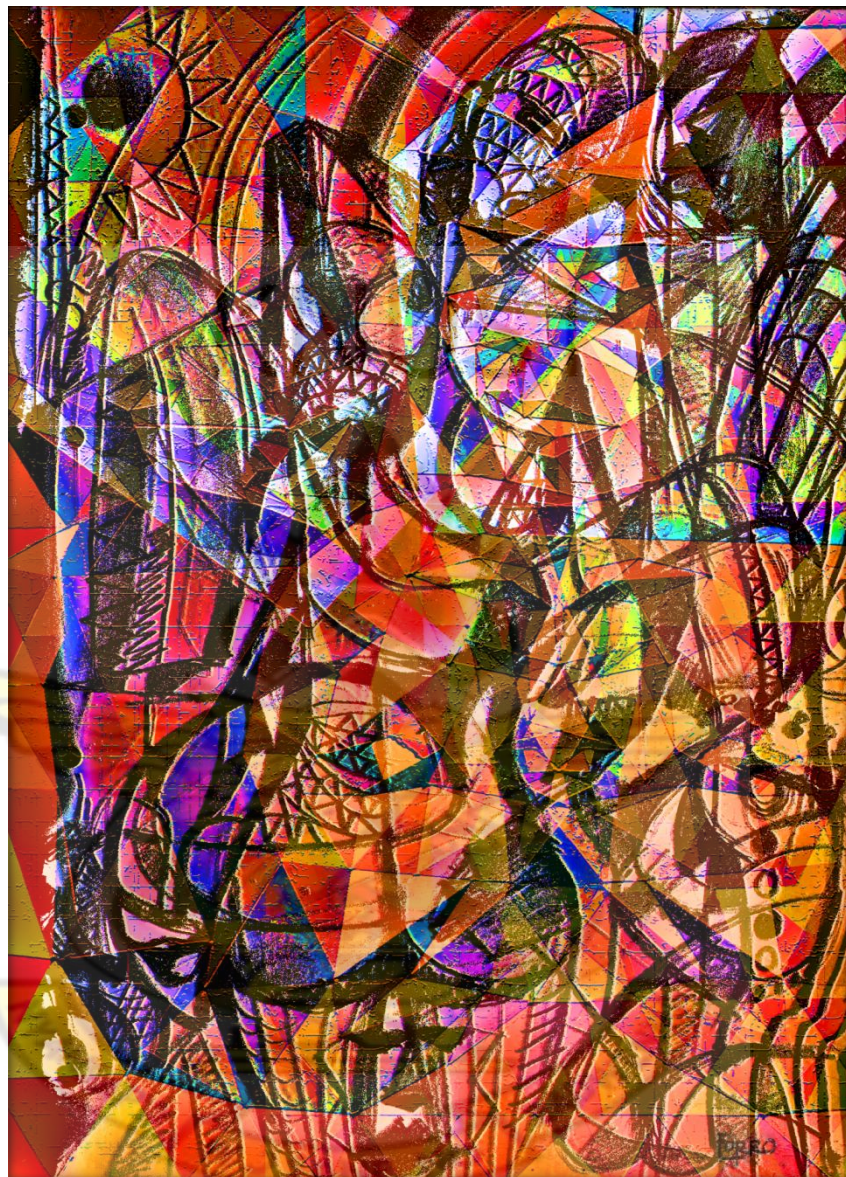Plate 40. *Yaa ampesie*, 2009. A2 matte canvas. Photoshop.

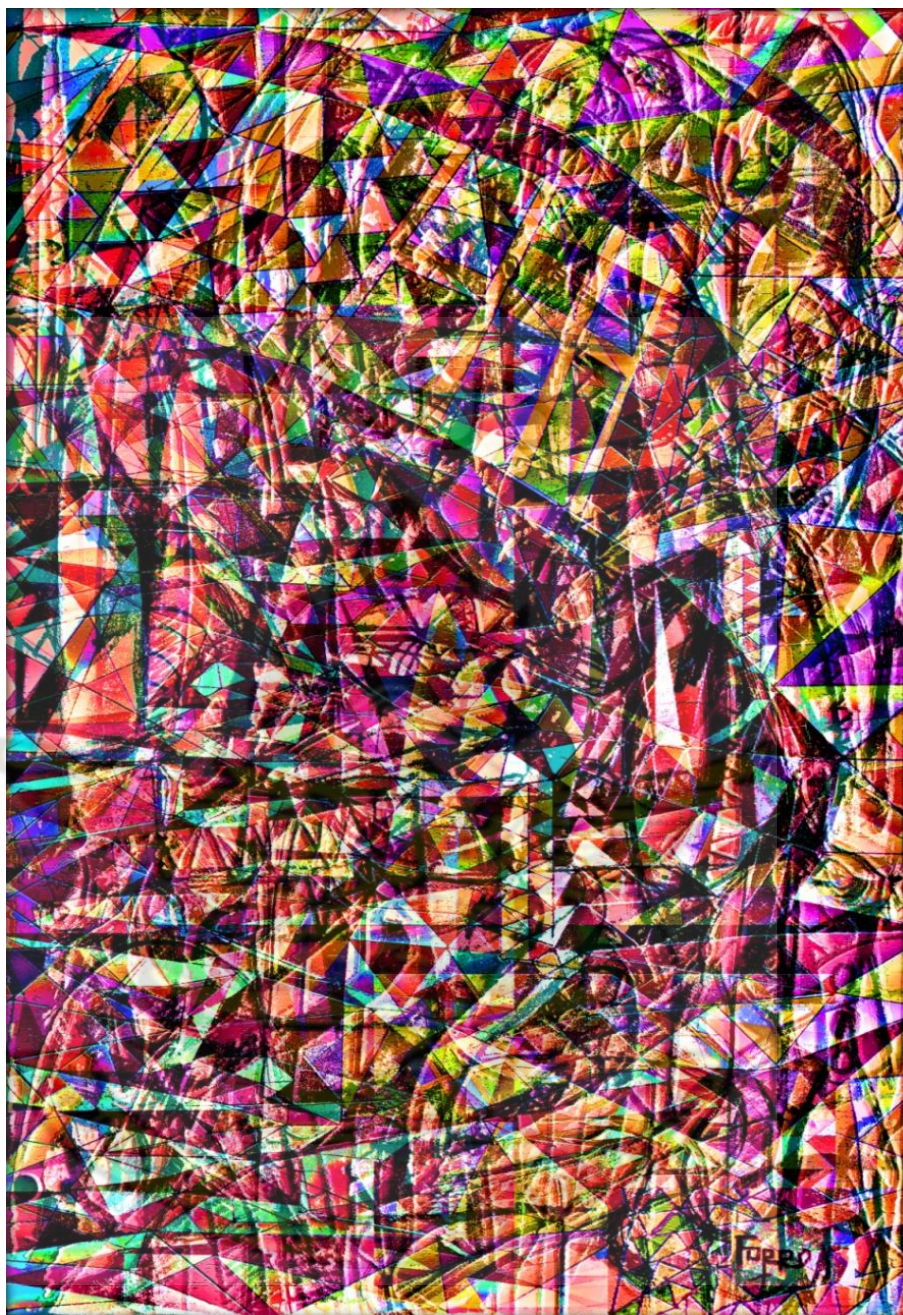Plate 41. *Untitled,* 2009. A2 photo paper. Photoshop.
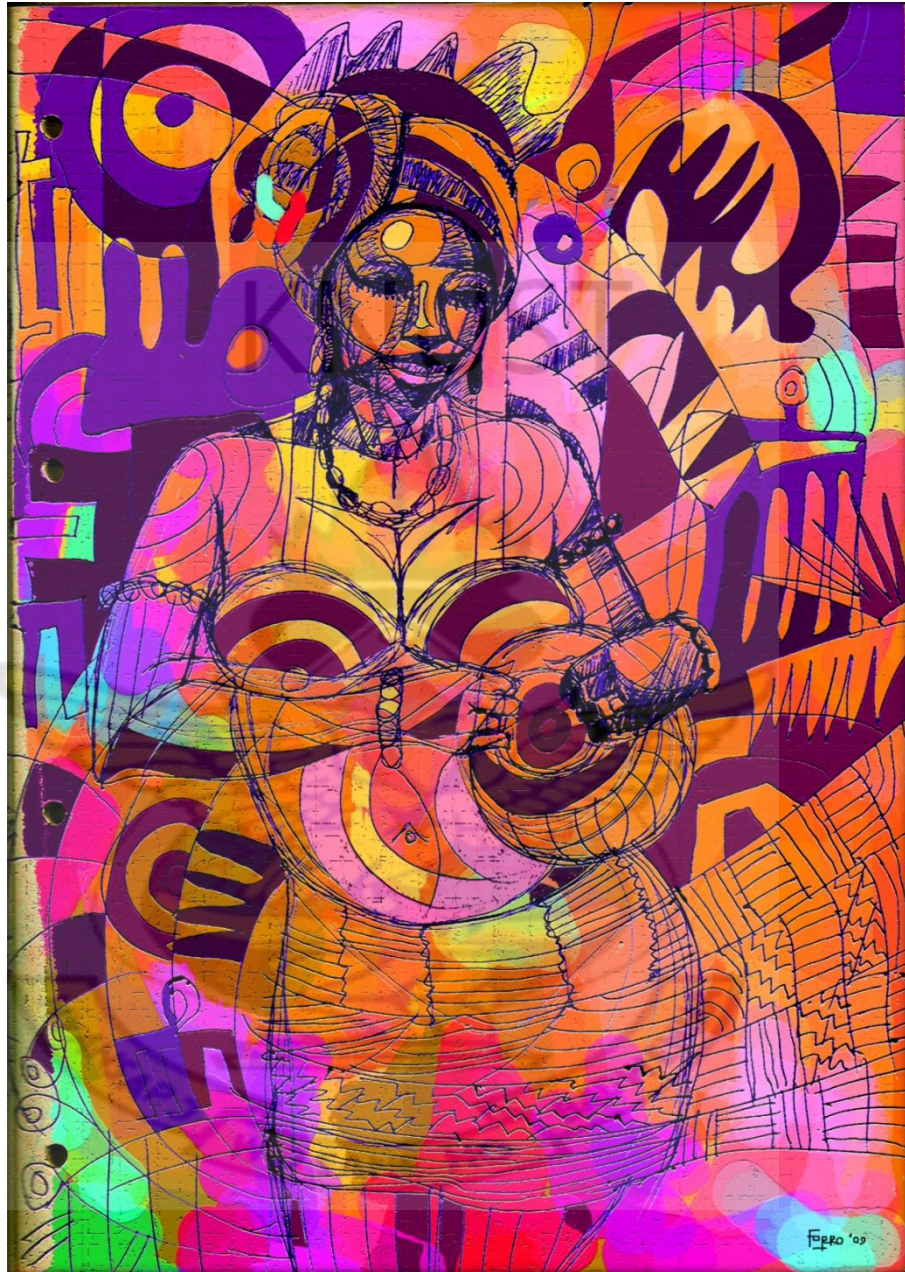
Plate 42. *Untitled*, 2009. A2 photo paper. Photoshop.

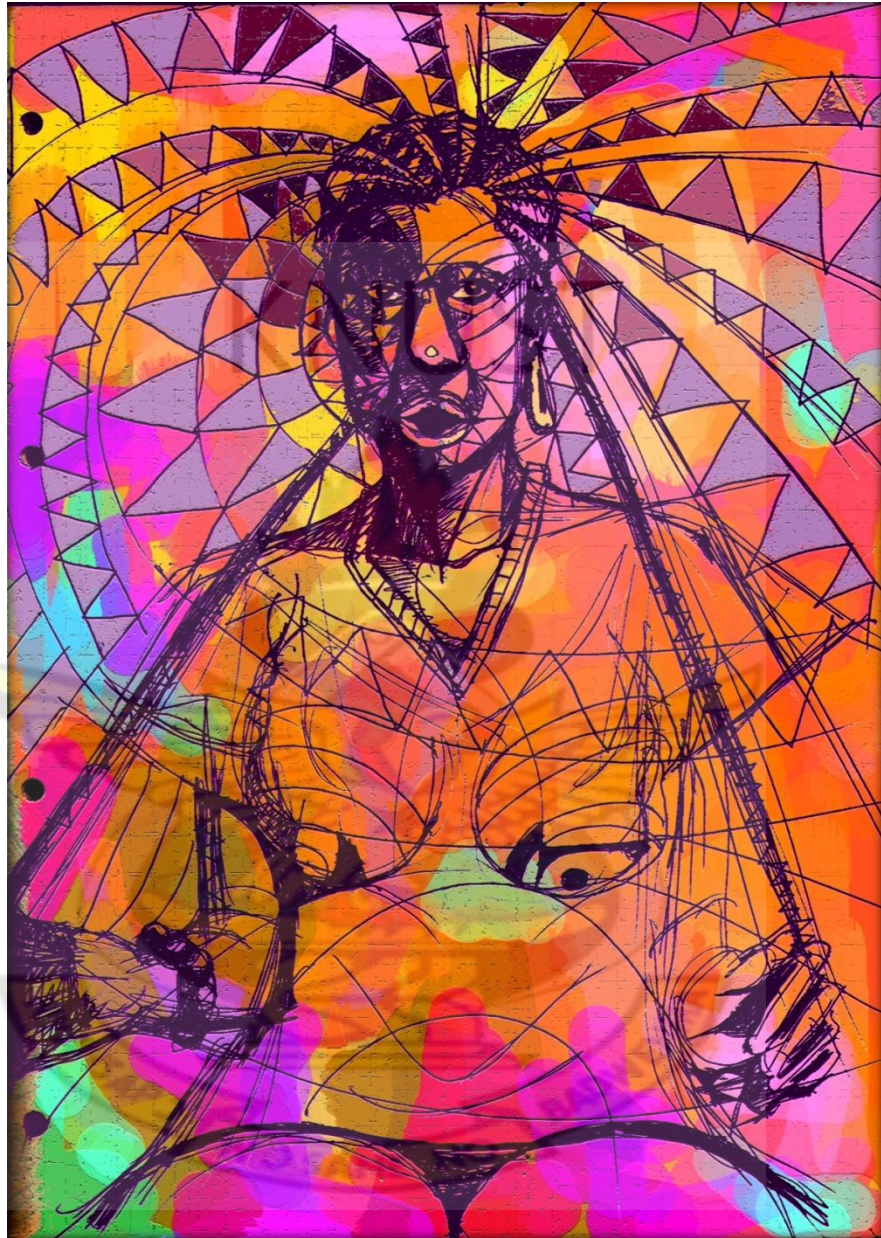Plate 43. *Akos Ghana*, 2009. A0 photo paper. Photoshop.

Plate 44. *Yaa at the Rasta hairdo*, 2009. A2 photo paper. Photoshop.

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 SUMMARY

This project has been an attempt to recreate true representations of portrait painting in a technological advancing world. In this project, three simple and practical techniques have been discussed in detail so as to help students interested in digital painting to get into it. The procedure or techniques used by other professional digital painters have been discussed. Not only that, the various geometric shapes used by various artists and movements have been discussed to expound on the meanings of these basic shapes in art. Several artistic movements (such as Cubism and Zedism) and their philosophies have been discussed to give credence to the art works produced by the researcher. Detail descriptions or discussions on the digital expressions made is to help inspire and motivate up and coming artists and practicing artists to go into digital painting.

5.2 CONCLUSIONS

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 making 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
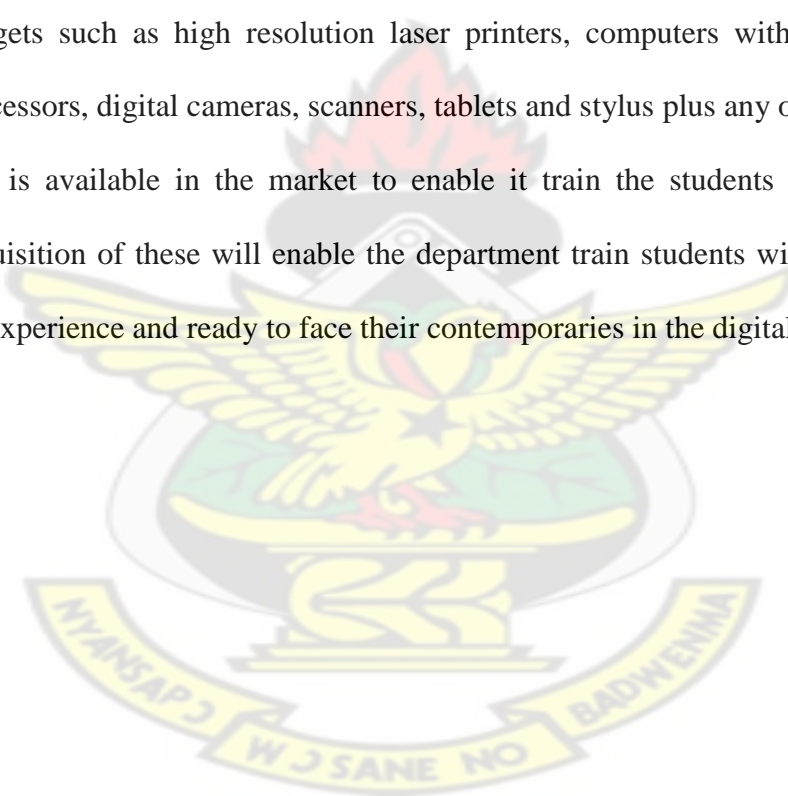
ways to still create wonderful digital paintings without sweat. However, it is hoped that the project will whip up the enthusiasm of painting students and other artists in Ghana into the exploration and experimentation of digital painting. It is also hoped that the medium of painting by artists will 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 into 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.

5.3 RECOMMENDATIONS

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.

REFERENCES

"digital art." The Columbia Encyclopedia, Sixth Edition. 2008. Retrieved 4 Mar. 2010 from <http://www.encyclopedia.com>.

"New Media," (2009). New Media. Retrieved 9 October, 2009 from http://www.wikipedia.com/New_media.html

Abbot, E. A. (1984). Flatland. United States of America. (pp 42-46).

Amenuke, S. K., Dogbe, B. K, Asare F. D. K, Ayiku, R. K, & Baffoe, A. (1991). General Knowledge in Art. Erison Press Ltd Accra-Ghana. (pp 162-164).

Caplin, S. (2004). How to Cheat in Photoshop. *Hiding and Showing.* Focal Press, Italy (pp 32-48).

Caplin, S. (2004). How to Cheat in Photoshop. *Image Adjustment.* Focal Press, Italy (pp 52-66).

Caplin, S. (2004). How to Cheat in Photoshop. *Natural Selection.* Focal Press, Italy (pp 4-26).

Cernuschi, C. (2009) "Modern Art." De Stijl. Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.

Cernuschi, C. (2009) "Modern Art.""Kasimir Malevich." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.

Cernuschi, C. (2009) "Modern Art.""Wassily Kandinsky." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.

Dondis, A. D. (1973). A Primer of Visual Literacy. Retrieved November 18, 2009 from http://smg.media.mit.edu/classes/library/Dondis.PrimerOf VisualLiteracy.pdf

Eugene, (2009). Amazing Digital Painting Portraits: Retrieved March 4, 2010. From http://www.mymodernmet .com

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Basic Image Adjustments.* Focal Press, Italy (pp 104-141).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Colour Management.* Focal Press, Italy (pp 143-159).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Layer Effects.* Focal Press, Italy (pp 262-278).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Output for the Web.* Focal Press, Italy (pp 425-431).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Photoshop Filters.* Focal Press, Italy (pp 281-299).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *Resolution.* Focal Press, Italy (pp 342-354).

Evening, M. (2004). Adobe Photoshop CS for Photographers. *The Work Space.* Focal Press, Italy (pp 14-69).

Holstein, J. A. & Gubrium, J. F. (2002). "Qualitative Research." Encyclopedia of Aging. Retrieved July 05, 2010 from Encyclopedia.com: http://www.encyclopedia.com/doc/1G2-3402200343.html

Kator, A. (2009). ATPM 9_11 - Quick Tips in Design Part 5 Shape.mht, Retrieved October 1st, 2009 from http://www.atpm.com/9.11/design.shtml

Lee Nupke (2001),Image '*topic Acha Debela brings Digital Art to Ghana*'(pp.6-9)

Lieser, W. (1998). "Phases in Digital Art." Digital Art Musuem (DAM). Retrieved April 6, 2006 from http:// www.dam.org

Mann, J. W. (2008) "Portraiture." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation.

Monkey-Jack, (2008). *Johnny Depp.* 9 October, 2009. From http://monkeyjack.deviantart.com/art/Johnny-Depp-digital-portrait-100054964

Naval, L. (2009). CUBISM PAINTING: A Blend of Colours and Geometry. Retrieved January 05, 2010. file:///I:/cubism-paintings-blend-of-colours-and.html

Padisio, (2009). *Angelina Jolie.* Digital Painting. 9 October, 2009 From http://symphonetworks.com/mymodernmet/glamheader.php

Princenthal, N. (2009). "Minimal Art." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.

Sayre, H. M. (1997). A World of Art - 2nd ed. Cubism; Prentice-Hall, Inc. USA. (pp.462-463).

Sayre, H. M. (1997). A World of Art - 2nd ed. Photorealism; Prentice-Hall, Inc. USA. (pp.112-113).

Stokstad, M. (1995), Art History, Art of Ancient Egypt, Henry N. Abrams Inc. New York (pp 122-125).

Yuransky, [2006] Zedism [http://www.zedism.com/defined.html], [accessed 2010 January 15].