1.0 INTRODUCTION

The definition of graphic design is ambiguous at best. In general, people have an idea of what graphic design looks like, but people have different ideas about exactly when it becomes distinct from fine art, photography, illustration, Typography or some other form of digital art. Some formal definitions are flawed because they are too specific, suggesting designs intended for a restricted usage. Other definitions suffer from being overly vague, and allow graphic design to be interpreted as anything using typography or imagery.

Defining graphic design is problematic, but it is not as difficult to define as the branch of graphic design commonly referred to as motion graphics. There are competing ideas about what motion graphics means. For the purpose of clarity, I will define motion graphics as designed non narrative, nonfigurative based visuals that change over time.

A misleadingly simple explanation of motion graphics would be to say that it is graphic design in motion. Under that broad description, a rotating restaurant sign could be classified as motion graphics, which would be incorrect. However, a stationary sign which presents sequential images of designs that change over time would be an example of motion graphics. The distinction of non-narrative, non figurative based visuals is to separate motion graphics from the larger general definition of animation or film.

Motion graphics often incorporate video, film, animation, photography, illustration, typography and music. The boundaries of these related art forms
are difficult to delineate, especially with multimedia works. A video or film of an actual moving object would not be considered motion graphics, unless the footage were integrated with design elements, such as type, shapes, or lines. Animation (traditional or digital) may or may not be considered motion graphics. Significant use of type or animation of forms that would not be considered strictly narrative in nature would be likely to fall in the category of motion graphics.

It begins with training graphic design skills, with an emphasis on the expressive potential of textual elements. Then, the same subject is re-compiled for display on video. When one takes into account the specifics of each media, the expectations converge in terms of provoking a broader view of typography or illustration as a design element. This is a work in progress that, although at the beginning stage, opens up new ground in Communication Design Education.

Motion graphic design has been considered a specialty skill, usually handled by artists that concentrate on designing for television broadcast or films. Within the next 10 years, not only will the majority of graphic designers work with time based media, but the general population will associate graphic design more with moving imagery on television screens or computer monitors. The current association of graphic design as images and text printed on paper, clothing, or billboards will remain, but the commonly held belief that graphic design refers just too static imagery will disappear completely.

To those following the latest trends of design and technology, the growing presence of motion graphics on television, the Internet, and forms
of entertainment, such as DVDs and video games, is an obvious and logical progression from static graphics. Even so, there are design professionals that predict a less optimistic future for motion graphics, due to economic factors, and increased ease for novice computer users to create visually stunning graphics with little or no training.

Advertising is a form of communication used to help sell products and services. Typically it communicates a message including the name of the product or service and how that product or service could potentially benefit the consumer. However, advertising does typically attempt to persuade potential customers to purchase or to consume more of a particular brand of product or service. Modern advertising developed with the rise of mass production in the late 19th and early 20th centuries (Oxford journals, 2009).

Many advertisements are designed to generate increased consumption of those products and services through the creation and reinvention of the “Brand Image”. For these purposes, advertisements sometimes embed their persuasive message with factual information. There are many media used to deliver these messages, including traditional media such as television, radio, cinema, magazines, newspapers, video games, the carrier bags, billboards, mail or post and Internet marketing.

While advertising can be seen as necessary for economic growth, it is not without social costs. Unsolicited Commercial E-mail and other forms of spam have become so prevalent as to have become a major nuisance to
users of these services, as well as being a financial burden on internet service providers. Advertising is increasingly invading public spaces, such as schools, which some critics argue is a form of child exploitation.

Since the late 1970s, graphic design has evolved from a static publishing discipline to a practice that incorporates a broad range of communications technologies including film, animation, interactive media, and environmental design. The field of motion graphics has captured the imagination of designers and viewers in the twenty-first century. Motion is becoming a principal part of our contemporary visual landscape with integrative technologies merging television, the Internet and immersive environments. The extraordinary evolution of motion graphics in our complex ‘information age’ mandates the need for effective communication and the demand for motion graphic designers who can design for Film Title, Commercial Advertising, the Web, and Interactive Forms of Entertainment.

This research thesis should not be mistaken as a software-specific guide, but should be viewed as a historical and critical overview of how motion graphics has evolved as a commercial practice in the motion picture, broadcast and interactive media industries.
1.1 A BRIEF HISTORY OF MOTION GRAPHICS

The moving image in cinema occupies a unique niche in the history of twentieth-century art. Experimental film pioneers of the 1920s exerted a tremendous influence on succeeding generations of animators and graphic designers. In the motion picture film industry, the development of animated film titles in the 1950s established a new form of graphic design called motion graphics.

1.1.1 Pioneers of Animation

Since the beginning of our existence, we have endeavored to achieve a sense of motion in art. Our quest for telling stories through the use of moving images dates back to cave paintings found in Lascaux, France and Altamira, Spain, which depicted animals with multiple legs to suggest movement. Attempts to imply motion were also evident in early Egyptian wall decoration and Greek vessel painting (Photo 1.1).

1.1.2 The human eye and persistence of vision

Animation cannot be achieved without understanding a fundamental principle of the human eye: persistence of vision. This phenomenon involves our eye’s ability to retain an image for a fraction of a second after it disappears. Our brain is tricked into perceiving a rapid succession of different still images.
as a continuous picture. The brief period during which each image persists upon the retina allows it to blend smoothly with the subsequent image.

1.1.3 Optical inventions in the ancient era

Although the concept of persistence of vision had been firmly established by the nineteenth century; the illusion of motion was not achieved until optical devices emerged throughout Europe to provide animated entertainment. Illusionistic theatre boxes, for example, became a popular parlor game in France. They contained a variety of effects that allowed elements to be moved across the stage or lit from behind to create the illusion of depth. Another early form of popular entertainment was the magic lantern, a device that scientists began experimenting with in the 1600s (Photo 1.2). Magic lantern slide shows involved the projection of hand-painted or photographic glass slides. Using fire (and later gaslight), magic lanterns often contained built-in mechanical levers, gears, belts, and pulleys that allowed the slides (which sometimes measured over a foot long) to be moved within the projector. Slides containing images that demonstrated progressive motion could be projected in
rapid sequence to create complex moving displays.

One of the first successful devices for creating the illusion of motion was the thaumatrope, made popular in Europe during the 1820s by London physicist Dr. John A. Paris. (Its actual invention has often been credited to the astronomer Sir John Herschel.) This simple apparatus was a small paper disc that was attached to two pieces of string and held on opposite sides (Photo 1.3). Each side of the disc contained an image, and the two images appeared to become merged together when the disc was spun rapidly. This was accomplished by twirling the disc to win the string and gently stretching the strings in opposite directions. As a result, the disc would rotate in one direction and then in the other. The faster the rotation, the more believable the illusion.

In 1832, a Belgian physicist named Joseph Plateau introduced the phenakistoscope to Europe. (During the same year, Simon von Stampfer of Vienna, Austria invented a similar device called the stroboscope.) This mechanism consisted of two circular discs mounted on the same axis to a spindle. The outer disc contained vertical slots around the circumference, and the inner disc contained drawings that depicted successive stages of movement. Both discs spun together in the same direction, and when held up to a mirror and peered at through the slots, the progression of images on the second disc appeared
Plateau derived his inspiration from Michael Faraday, who invented a device called “Michael Faraday’s Wheel,” and Peter Mark Roget, the compiler of Roget’s Thesaurus. The phenakistoscope was in wide circulation in Europe and America during the nineteenth century until William George Homer invented the zoetrope, which did not require a viewing mirror. Referred to as the “wheel of life,” the zoetrope was a short cylinder with an open top that rotated on a central axis. Long slots were cut at equal distances into the outer sides of the drum, and sequences of drawings on strips of paper were placed around the inside, directly below the slots. When the cylinder was spun, viewers gazed through the slots at the images on the opposite wall of the cylinder, which appeared to spring to life in an endless loop (Photo 1.4).

The popularity of the zoetrope declined when Parisian engineer Emile Reynaud invented the praxinoscope. A precursor of the film projector, it offered a clearer image by overcoming picture distortion by placing images around the inner walls of an exterior cylinder. Each image was reflected by a set of mirrors attached to the outer walls of an interior cylinder (Photo 1.5).
When the outer cylinder is rotated, the illusion of movement is seen on any one of the mirrored surfaces. Two years later, Reynaud developed the praxinoscope theatre, a large wooden box containing the praxinoscope. The viewer peered through a small hole in the box’s lid at a theatrical background scene that created a narrative context for the moving imagery.

1.1.4 Brief history of Cinematic Inventions

During the late 1860s, former California governor Leland Stanford became interested in the research of Etienne Marey, a French physiologist who suggested that the movements of horses were different from what most people thought. Determined to investigate Marey’s claim, Stanford hired Edward Muybridge, who earned a reputation for his photographs of the American West, to record the moving gait of his racehorse with a sequence of still cameras (Frames 1.1). Muybridge continued to conduct motion experiments, some of which were published in an 1878 article in Scientific American.
This fueled Muybridge to invent the zoopraxiscope, an instrument that allowed him to project up to 200 single images on a screen. This forerunner of the motion picture was received with great enthusiasm in America and England. In 1884, Muybridge was commissioned by the University of Pennsylvania to further his study of animal and human locomotion and produced an enormous compilation of over 100,000 detailed studies of animals and humans engaging in various physical activities. These volumes were a great aid to visual artists in helping them understand movement.

In 1889, Hannibal W Goodwin, an American clergyman, developed a transparent, celluloid film base, which George Eastman began manufacturing. For the first time in history, long sequences of images could be contained on a single reel. (Zoetrope and praxinoscope strips were limited in that they could only display approximately 15 images per strip.) In Britain, Louis and Auguste Lumière developed the kinora, a home movie device that consisted of a
14 cm wheel that held a series of pictures. When the wheel was rotated by a handle, the rapid succession of pictures in front of a lens gave the illusion of motion (Photo 1.6). By 1894, coin-operated kinetoscope parlors could be seen in New York City, London, and Paris. This eventually led to their invention of the Cinematographe, the first mass-produced camera-printer-projector of modern cinema (Photo 1.7). For the first time in history, cinematographic films were projected onto a large screen for a paying public.

In addition to filming movies, new developments led to the concept of creating drawings that were specifically designed to move on the big screen. Prior to Warner Brothers, MGM, and Disney, the origins of classical animation can be traced back to newspapers and magazines that displayed political caricatures and comic strips. One of the most famous cartoon personalities before Mickey Mouse was Felix the Cat. Created by Australian cartoonist Pat Sullivan and animated by Otto Mesmer, Felix was the first animated character
to have an identifiable screen personality. In 1914, an American newspaper cartoonist named Winsor McCay introduced a new animated character to the big screen—Gertie the Dinosaur. The idea of developing a likeable personality from a living creature had a galvanizing impact upon audiences.

The cell animation process, developed in 1910 by Earl Hurd at John Bray studios, was a major technical breakthrough in figurative animation that involved the use of translucent sheets of celluloid for overlaying images. Early artists who utilized Bray’s process included Max Fleischer (Betty Boop), Paul Terry (Terrytoons), and Walter Lantz (Woody Woodpecker). Stop-motion animation, which can be traced back to the invention of stop-action photography, was used by French filmmaker Georges Méliès, a Paris magician. In Méliès’ classic film, A Trip to the Moon (1902), stop-action photography allowed Méliès to apply his techniques, which were derived from magic and the theatre, to film. Additional effects, such as the use of superimposed images, double exposures, dissolves, and fades, allowed a series of magical transformations to take place.

Few years later, I. Stuart Blackton, an Englishman who immigrated to the United States, discovered that by exposing one frame of film at a time, a subject could be manipulated between exposures to produce the illusion of motion. In 1906, his company, Vitagraph, released an animated short titled Humorous Phases of Funny Faces, one of the earliest surviving American animated films. Blackton’s hand is seen creating a line drawing of a male and female character with chalk on a blackboard. The animation of each face’s changing facial expression was accomplished through single-frame exposures of each slight variation.
Emile Cohl and Max Fleischer expanded the resources of animation by mixing live footage with hand-drawn elements. Known as the father of French animation, E-mail Cohi, a newspaper cartoonist, is known for his first classic film, Fantasmagorie (1908). Cohi’s 300 subsequent short animations were a product of the Absurdist school of art, which derived artistic inspiration from drug-induced fantasy, hallucinations, and insanity. These works combined hand-drawn animated content and live action. Around 1917, Max Fleischer, an admirer of McCay’s realistic style, patented the technique of rotoscoping. This process involved drawing frames by tracing over previously filmed live-action footage, allowing the animator to produce smooth, lifelike movements. Fleischer’s next invention, the Rotograph, enabled animated characters to be placed into live, realistic settings. A live action background would be filmed and projected one frame at a time onto a piece of glass. A cel containing an animated character would be placed on the front side of the glass, and the composite scene would be filmed. With this technique, Fleischer went on to develop the personalities of famous characters such as Koko the Clown, Betty Boop, Popeye, and Superman.

### 1.1.5 Animation at the early ages

At the turn of the twentieth century postwar technological and industrial advances, and changing social, economic, and cultural conditions of monopoly capitalism throughout Europe fueled artists’ attempts to reject classical representation. This impulse led to the rapid evolution of abstraction in painting and sculpture. Revolutionary Cubist painters began expressing space...
in geometric terms. Italian Futurists became interested in depicting motion on the canvas as a means of liberating the masses from the cruel treatment that they were receiving from the government. Dada and Surrealist artists sought to overthrow traditional constraints by exploring the spontaneous, the subconscious, and the irrational. These forms of Modernism abandoned the laws of beauty and social organization in an attempt to demolish current aesthetic standards of art. This was manifested in music, poetry sculpture, painting, graphic design, and experimental filmmaking.

1.1.6 Pioneers of “pure cinema”

During the 1920s, huge movie palaces, fan magazines, and studio publicity departments projected wholesome images of stars. Hollywood’s mass-produced romances and genre films reaffirmed values such as the family and patriotism. In Germany, France, and Denmark, filmmakers began to embrace a more personal attitude toward film through the medium of animation. Their basic motivation was not inspired by commercial gain; rather, it came from a personal drive to create art. “Pure cinema,” as the first abstract animated films were called, won the respect of the art community who viewed film as an expressive medium.

During the early 1900s, Swedish musician and painter Viking Eggeling described his theory of painting by way of music, in terms of “instruments” and “orchestration.” His desire was to establish what he referred to as a “universal language” of abstract symbols, and he strived to accomplish this
by emphasizing musical structure and avoiding representation. The nihilistic tendencies of the Dada movement gave Eggeling the freedom to break from conventional schools of thought, and he collaborated with German filmmaker Hans Richter on a series of scroll drawings that utilized straight lines and curves of varying orientations and thicknesses. These structures were arranged in a linear progression across a long scroll of paper, forcing viewers to see them in a temporal context. Driven by the need to integrate time into his work, he turned his attention to film and produced Symphonie Diagonale in 1923. Taking almost four years to complete, this framebyframe animation showed a strong correlation between music and painting in the movements of the figures, which were created from paper cutouts and tin foil. Eggeling died in Berlin approximately two weeks after his film was released (Frame 1.2).

A major contributor to the Cubist movement, Fernand Léger has been described as “a painter who linked industry to art.” Born in northwestern France, he desired to express his love for city life,
common people, and everyday objects in painting. By 1911, he became identified with his tubular and curvilinear structures, which contrasted with the more angular shapes produced by other cubists, such as Picasso and Braque. During the 1920s, Leger began to pursue film and produced his classic, Ballet Mechanique (1923). Created without a script, this masterpiece demonstrated a desire to combine the energy of the machine with the elegance of classical ballet. Fragments of reflective, metal machinery, disembodied parts of figures, and camera reflections were orchestrated into a seductive, rhythmic mechanical dance. Conceptually, this film has been interpreted as a personal statement in a world of accelerating technological advancement and sexual liberation. From an artistic perspective, it represented a daring jump into the territory of kinetic abstraction.

German Dadaist Hans Richter collaborated with Viking Eggeling to produce a large body of “scroll drawings” that depicted sequential transformations of geometric forms that he described as “the music of the orchestrated form.” Richter saw film animation as the next logical step for expressing the kinetic interplay between positive and negative forms. Richter’s silent films of the late 1920s demonstrated a more surreal approach that combined animation with live-action footage. At the time, these shocking films challenged artistic conventions by exploring fantasy through the use of special effects, many of which are used in contemporary filmmaking. In Ghosts before Breakfast (1927), people and objects engage in unusual behavior set in bizarre and often disturbing settings. Flying hats continually reappear in conjunction with surrealistic live images of men’s beards magically appearing and disappearing,
teacups filling up by them, men disappearing behind street signs, and objects moving in reverse.

After World War I, German painter Walter Ruttmann became impatient with the static quality of his artwork and saw the potential of film as a medium for abstraction, motion, and the passage of time. In 1920, he founded his own film company in Munich and pioneered a series of playful animated films entitled Opus, all of which explored the interaction of geometric forms. Interaction of geometric forms was one of the earliest abstract films produced and one of the few that was filmed in black and white and hand-tinted. The technical process that Ruttmann employed remains questionable, although it is known that he painted directly onto glass and used clay forms molded on sticks that, when turned, changed their appearance (Frames 1.3).

Born in Brooklyn, New York, Emanuel Radnitsky (known as Man Ray), became an enigmatic leader of the Dada-Surrealist and American avant-garde movements of the 1920s and 1930s. After establishing Dadaism in New York City with Marcel Duchamp and Francis Picabia, he moved to Paris and became a portrait photographer for the wealthy avant-garde. By the early 1920s, he developed a reputation for his use of natural light and informal poses.
during a time when Pictorialism was the predominant style of photography in Europe. Commercial success gave him the freedom to experiment, and his discovery of the “Rayograph” (later called the photogram) made a significant contribution to the field of photography. Throughout the 1920s, Man Ray produced Surrealist films that were created without a camera, such as Anemic Cinema (1925-26) and L’Étoile de Mer (1928). He often described them as “inventions of light forms and movements.”

In the 1930s, Russian-born filmmaker Alexander Alexeieff and American Claire Parker invented the pinboard (later named the pinscreen), one of the most eccentric traditional animation techniques. This contraption consisted of thousands of closely-spaced pins that were pushed and pulled into a perforated screen, using rollers to achieve varying heights. When subject to lighting, cast shadows from the pins produced a wide range of tones, creating dramatic textural effects that resembled a mezzotint, wood carving, or etching.

Revolutionary New Zealand animator Len Lye, who often referred to himself as “an artist for the twenty-first century,” pioneered the direction-film technique of camera less animation by painting and scratching onto 35mm celluloid. His use of abstract, metaphorical images are a product of his association with Surrealism, Futurism, Constructivism, and Abstract Expressionism, as well as his affinity for jazz, Oceanic art, and calligraphy. His use of percussive music, saturated colour, and organic forms had a major impact on a genre that later became known as music video. Living in Samoa between 1922 and 1923, Lye became inspired by Aboriginal motifs and produced
his first animated silent him, Tusalava (1929), which he created to express “the beginnings of organic life” (Frame 1.4).

This film took approximately two years to complete, since each frame was hand-painted and photographed individually. In a 16 mm abstract film titled Free Radicals (1958), Lye scratched the content onto a few thousand feet of black film leader using tools ranging from sewing needles to Indian arrowheads.

In Canada, Norman McLaren has been described as a “poet of animation.” Inspired by the masterpieces of filmmakers Eisenstein and pudovkin, he began animating directly onto film, scratching into its emulsion to make its stock transparent. (At the time, he was unaware that Len Lye was conducting similar experiments.) In 1941, he was invited to join the newly formed National Film Board of Canada (NFB), and there, he founded an animation department and experimented with a wide range of techniques. Films, such as Fiddle-de-Dee (1947) and Begone Dull Care (1949), were made by painting on both sides of 35mm celluloid. Incredibly rich textures and patterns were achieved through brushing and spraying, scratching, and pressing cloths into the paint before it dried. For over four decades, McLaren produced films for the NFB that served as an inspiration for animators throughout the world. In 1989, two years after his death, the head office building of the NFB was renamed the Norman McLaren Building.
Berlin animator Lotte Reiniger is known for her silhouette cut-out animation style during the sound-on film era of the 1930s. Her full length feature film, The Adventures of Prince Achmed was among the first animated motion pictures to be produced, taking approximately three years to complete the main characters were marionettes that were composed of black cardboard figures cut out with scissors and photographed frame-by-frame (Photo 1.8).

Born in Texas, Mary Ellen Bute studied painting and earned a degree in stage lighting at Yale (Photo 1.9). She became interested in filmmaking as a means of exploring kinetic art, and in collaboration with Joseph Schillinger, a musician and musical composer who had developed a theory about the reduction of musical structure to mathematical formulas, began animating a film that would prove that music could be illustrated with images. Because of the intricacy of the images, however, this ambitious film was not completed. Mary Ellen Bute incorporated many different types of found objects in her work including combs, colanders, Ping Pong balls, and eggbeaters and photographed them frame-by-frame at various speeds. She intentionally distorted them by filming
their reflections against a wall to conceal their origin. Her first film from the 1930s, Rhythm in Light, involved shooting paper and cardboard models through mirrors and glass ashtrays to achieve multiple reflections. Mary Ellen also explored oscilloscope patterns as a means of controlling light to produce rhythm (Frame 1.5). Between 1934 and 1959, her abstract films played in regular movie theatres around the country.

As a leading innovator of experimental film, Oskar Fischinger believed that visual music was the future of art. Born in Germany, he was exiled to Los Angeles when Hitler came to power and the Nazis censured abstraction as “degenerate.” During the early 1920s, his pursuit of the Futurist goal to make painting dynamic manifested in a series of film studies created from charcoal drawings of pure, geometric shapes and lines. Constructed from approximately 5,000 drawings, they demonstrated a desire to marry sound and image.

Born in Portland, Oregon, Harry Smith, who began recording Native American songs and rituals as a teenager, emerged as a complex artistic figure in sound recording, filmmaking, painting, and ethno Graphic collecting. Intrigued by the occult, he often spoke of his art in alchemical and cosmological terms (Photo 1.10. Painting by Harry Smith).
1. Like an alchemist, he worked on his films secretly for almost 30 years. At times, Smith spoke of synesthesia and the search for correspondences among colour, sound, and movement. His painstaking direct-on-film process involved a wide range of nonconventional tools and techniques ranging from adhesive gum (lots to Vaseline, masking tape, and razor blades. Throughout the 1950s and 1960s, Smith’s collage films became increasingly complex. He cut out pictures and meticulously filed them away in envelopes, building up an image archive which he used in later works (Frame 1.6).

After studying painting at Stanford, Robert Breer moved to Paris and became heavily influenced by the hard-edged geometric qualities of Neo-plasticism and the abstractions of the De Stijl and Blue Rider movements. Eventually, Breer felt restricted by the boundaries of the static canvas and produced a series of animations that attempted to preserve the formal aspects of his paintings. He also experimented with rapid montage by juxtaposing frames of images in quick succession.

Jan Svankmajer was one of the most remarkable European filmmakers of the 1960s. His innovative works have helped expand traditional animation
beyond the concept of Disney cartoons. His bizarre, often grotesque, Surrealist style aroused controversy after the 1968 Soviet invasion of Czechoslovakia, and his opportunities to work in Czech studios were restricted. Nevertheless, he employed a wide range of techniques and used almost anything he could find, including man-made objects, animals, plants, insects, and bones in order to fuse object animation with live action. Vankmajer’s love of rapid montage and extreme close-ups is evident in films such as Historia Naturae (1967), Leonardo’s Diary (1972), and Quiet Week In A House (1969). His surrealist orientation is evident in his use of somber, haunting images of living creatures and inanimate objects that are thrust into worlds of ambiguity. The impact of his images often dominates over the narrative, as people take on the appearance of robots, and inanimate objects engage in savage acts of decapitation, suicide, and cannibalism. In The Last Trick of Mr Schwarcewalld and Mr Edgar (1964), a beetle crawls out of the head of the main character who wears a wooden mask. In Jabberwocky (1971), branches blossom and apples drop and burst open to reveal maggots. A jackknife dances on a table, falls flat, and its blade closes to produce a trickle of blood that oozes out of its body. In another scene, tea parties of dolls dine at a small table, consuming other dolls that have been crushed in a meat grinder and cooked on a miniature range.

Inspired by Eastern European culture and the films of Jan vankmajer, identical twin brothers Stephen and Timothy Quay (the “Brothers Quay”) were among the most accomplished puppet animation artists to emerge during the 1970s. Their exquisite sense detail and decor, openness to spontaneity, and use of
extreme close-ups have enchanted audiences worldwide, and their innovations contributed a unique sense of visual poetry to animated film. The miniature sets of the Quays create a world of repressed childhood dreams. Absurd and incomprehensible images (e.g., antiquated-looking toys, machinery; bones, meat, etc.) exist in a chaotic, multilayered world where human characters live at the mercy of insidious machines. Unexpected, irrational events distort space and time beyond recognition. The harsh, grimy atmosphere of decay, the ominous quality of chiaroscuro, the dazzling use of light and texture and adept Camera movements give their films an eerie, sublime quality. Some of their best known shorts include Street of Crocodiles (1986), The Institute Benjamenta (1995), and In Absentia (2000). The Quays have also produced network IDs, commercials for Coca-Cola, MTV and Nikon, and music videos including Peter Gabriel’s “Sledgehammer.” The Brothers Quay currently resides in North London and work in South London at their studio, Atelier Koninck.

During the 1970s, American animators Frank and Caroline Mouris developed the technique of collage animation in their Academy Award-winning film Frank Film (1973). In the 1990s, they went on to create the short, Frankly Caroline (1999). Both films are characterized by an overabundance of images representing Western culture and iconography. The objective of these films was to provide a visual biography of their lives and their collaborative personal and working partnership. Frank Mouris describes Frank Film as a “personal film that you do to get the artistic inclinations out of your system before going commercial.” The Mouris’ animation style has appeared in many music videos and television spots on PBS, MTV and the Nickelodeon channels.
1.1.7 Computer related animation

Since the 1960s, advancements in digital technology have exerted a tremendous influence over subsequent generations of animators and commercial motion graphic designers all over the world. John Whitney hypothesized a future in which computers would be reduced to the size of a television for home use. His interest in film, electronic music, and photography was influenced by French and German avant-garde filmmakers of the 1920s. Whitney felt that music was part of the essence of life and attempted to balance science with aesthetics by elevating the status of the computer as a viable artistic medium to achieve a correlation between musical composition and abstract animation. In collaboration with his brother James, he devised a pendulum sound recorder that produced synthetic music for his animated compositions. During World War II, Whitney discovered that the targeting elements in bomb sights and anti-aircraft guns could calculate trajectories that could be used to plot graphics. From surplus anti-aircraft hardware, he built a mechanical analog computer (which he called a “cam machine”) that was capable of metamorphosing images and type. This later proved to be successful in commercial advertising and in film titling.

During the 1950s, Whitney began producing 16 mm films for television and produced the title sequence for Alfred Hitchcock’s Vertigo (created in partnership with Saul Bass). He also directed short musical films for CBS and in 1957, worked with Charles Eames to create a large seven-screen presentation for the Fuller Dome in Moscow. In 1960, Whitney founded Motion Graphics
Inc. and produced openings for shows such as Dinah Shore and Bob Hope. He also produced Catalogue, a compilation of the effects that he had perfected with his analog computer (Frame 1.7). In 1974, John Whitney, Jr. and Gary Demos formed a Motion Picture Products group which led to the first use of computer graphics for motion pictures while working on the film Westworld (1973). This film employed pixelization, a technique that produces a computerized mosaic by dividing a picture into square blocks and averaging each block’s colour into a single colour.

During the 1960s, Stan Vanderbeek became one of the most highly acclaimed underground filmmakers to experiment with computer graphics and multiple screen projection. He produced films using a variety of processes including collage, hand-drawn animation, live action, film loops, video, and computer-generated graphics. He also invented the Movie-Drome theatre, a 360° overhead projection area that surrounded audiences with images as they lay on their backs around the perimeter of the dome. This development later influenced the construction of worldwide “life theaters” and image libraries to advance international communication and global understanding.

During the time that Vanderbeek was producing collage films, Ken Knowlton, an employee of Bell Labs, was developing a Beflix programming language for the production of raster-based animation, a system used by
Vanderbeek. Knowlton also investigated pattern perception and developed an algorithm that could fragment and reconstruct a picture using dot patterns. During the 1990s, he won several awards for his digital mosaics that, close up, depicted a complex array of objects, and from a distance, became discernible as a recognizable image.

In 1961, MIT student Ivan Sutherland created a vector-based drawing program called Sketchpad. Using a light pen with a small photoelectric cell in its tip, shapes could be constructed without having to be drawn freehand. He also invented the first head-mounted display for viewing images in stereoscopic 3D. A few years earlier, Robert Abel, who had originally produced films with Saul Bass, established the computer graphics studio Robert Abel and Associates with his friend Con Pederson in 1971. He was contracted by Disney to develop promotional materials and the opening sequence to The Black Hole (1979), and later to produce graphics for Disney’s movie Tron (1982). Abel won multiple awards, including two Emmys and a Golden Globe, and his company became recognized for its ability to incorporate conventional cinematography and special effects techniques into the domain of CGI.


1.2 MOTION GRAPHIC IN TELEVISION

By the late 1960s, most prime time television content was produced on colour film. Tape recording technology also became available, and colour videotape machines and tape cartridge systems were offered by RCA, providing stations with a reliable method of playback. Broadcasters stretched the limits of portability with large cameras and recorders. Program relay by satellite also emerged, giving viewers live images from all over the world. When there were just three television networks, Brand identity was easily captured in three signature logos: NBC’s peacock, CBS’s Eye, and ABC’s round logo designed by Paul Rand.

During that time, Harry Marks, who was working for ABC, conceived the idea of the moving logo and hired Douglas Trumbull, who pioneered the special effects in the film 2001: A Space Odyssey (1968), to assist him in his endeavors. Trumbull’s slit scan camera, which he had developed as an extension of John Whitney’s work, was mounted on track and moved toward artwork that was illuminated on a table. In front of the art, an opaque screen with a thin vertical slit restricted the field of view of the camera to a narrow horizontal angle. Although this process was laborious and expensive, it introduced many graphic possibilities into the broadcast world. The animated opening sequence to ABC’s Movie of the Week was a major accomplishment and captivated audiences nationwide. As a precursor to modern digital animation techniques, it brought about a major graphic design revolution.

Since the 1950s, when legendary Saul Bass revolutionized film title design, the movie and broadcast design industries have integrated the language of
traditional graphic design with the dynamic visual language of cinema. Today, motion graphic designers have become leading players in the creation of film titles and many forms of television graphics (Frames 1.8).

1.3 Motion Graphics in Commercials Advertising

Early cinematic techniques that were used in experimental avant-garde film and movie title sequences became adopted in broadcast motion graphics, as television became a new medium for animation.

Television commercials are one of the most desired campaign vehicles and one of the most effective methods of generating brand recognition to facilitate product sales. Most commercials today, which sell everything from household items to political campaigns, can range from 5-10 seconds to hour-long infomercials. (30 second commercials are often referred to as spots.) The vast expenditures that television studios spend on advertising—according to wikipedia.org, the average cost of a single spot during the Super Bowl has reached approximately $2.6 million—has resulted in elaborate productions, many of which can be considered miniature movies.

In 2005, Stardust Studios, a creative design firm in New York, teamed up with McCann Erickson, a global advertising agency in San Francisco, to create the largest branding effort in the history of Microsoft Windows, reaching eleven countries over a period of fifteen months. The Windows “Start Something” campaign, a series of nine 30 second spots, was designed to support the global launch of Windows XP (Frames 1.9). Stardust Studios also designed a spot for Nokia in Singapore that aired in global broadcast outlets and in theaters. In the spot, a man and woman find inspiration from the phones of the Nokia L’Amour Collection (Frames 1.10).
In a televised spot for KEXE a Seattle-based radio station featuring musical styles ranging from bluegrass to electronica, Digital Kitchen developed a concept that involved translating a static print campaign for a band or solo artist into a time-based context. Low-tech graphic representations of bands and independent artists, which emulate the style of wheat-pasted posters displayed in the city, along with stop-motion, communicates the independent nature of the station’s music, the words “from” and “to” continuously appear to show the range of diversity among the artists that are represented.
1.4 SIGNIFICANCE OF THE STUDY

Motion graphics is an important ingredient in TV commercials, to make it more attractive, understandable, memorable and more interactive for viewers of all age groups, education and culture. It can also change their mind set, bring in attitudinal changes and impact a new viewing culture.

The designers of these commercial advertisements can also study the audience/ viewer pattern and create advertisements more effectively.

Motion graphics in advertisements is a new addition out of the recent result of the technological advancement. Hence, no significant studies have been attempted so far.

This study is bound to produce major findings and throws light on the significance of motion graphics in different genres of advertisements.

Beside it will also serve as a cardinal reference to motion graphic designers and advertising agencies to help understand people with different cultures, age groups, academic and social backgrounds. This study will analyse different types of TV commercials and audience preferences. It will help comprehend what kind of advertisements, reach out most to target consumers and the unique selling proposition of such commercials.
1.5 LIMITATIONS OF THE STUDY

The use of motion graphics in advertisement is new and it gained momentum in around year 2005. Its applicability and creative dimension keep growing. Over a period of time, it becomes an intrinsic part of every advertisement wherein one can show the whole gamut of the subject in any desired way.

The utilities of motion graphics stabilized itself around in the subsequent years. Hence the researcher has selected the period of study during 2009-2012. Hence, in terms of the selection of period of study is thus justified.

Motion graphics are used in many capacities on television such as news broadcasts, commercials and other programming. However, the study is limited to six categories of advertising namely:

- Product Advertising
- Service Advertising
- Institutional Advertising
- Public Relations Advertising
- Public Service Advertising
- Financial Advertising
1.6 WORKING DEFINITIONS

3D Modelling: the process of developing a mathematical representation of any three dimensional surface of object (either inanimate or living) via specialized software.

Abstract: a concept or idea not associated with any specific instance

Achromatic: Absence of colour; a colour scheme using only white, grey, and black.

Action safe: The designated area in which an image will be displayed when viewed on television or other video screen.

Action: an attribute of the development of a system over a period of time.

Additive colour system: Used for screen views; red, green, and blue are the primary colours.

Advertisement: a public promotion of some product or service

Advertiser: A person, organization or company that places advertisements in order to target customers.

Advertising: is a form of communication for marketing and used to encourage or persuade an audience (viewers, readers or listeners; sometimes a specific group) to continue or take some new action.

Aliased: The appearance of jagged edges around images or letters.

Analogous: Colours directly next to each other on the colour wheel.

Animation: the rapid display of a sequence of images of 2-D or 3-D artwork or model positions to create an illusion of movement. The effect is an optical illusion of motion due to the phenomenon of persistence of vision, and can be created and demonstrated in several ways. The most common method of presenting animation is as a motion picture or video program, although there are other methods.

Anti-aliased: The appearance of smooth edges around images and loiters.

Apparent motion: Illusion of seeing movement in continuous single frames due to the fact that the image in each successive frame has changed position slightly.

Apple: artificial intelligence: Refers to the way in which video game characters are programmed to respond to a player’s actions during a game.

Ascenders: Strokes of a letter that rise above the mean line.

Audience: The spectators or listeners assembled at a performance, for example, or attracted by a radio or television program

Autodesk: is an American multinational corporation that focuses on 3D design software for use in the architecture, engineering,

Avatar: Graphic use in electronic communication that serves as a personal identifier.
Baseline: Invisible line that text sits on.

Bauhaus: German school of design started in 1919, which espoused the principles of form working together with function.

Bitmap: See raster.

Bug: Station logo placed in the lower quadrant of the television screen.

Camera Movements: This movement plays a considerable role in the emotional language of film images and the audience’s emotional reaction to the action.

Cel: A clear sheet of celluloid used in traditional animation. Due to the cel’s transparency, when animators draw on it, they are able to composite images from different cels to create one complete picture.

Chunking: Grouping like elements together.

Clash: A colour scheme using one colour plus the colour directly to the bit or right of its complement.

Close-up: Close-ups are one of the standard shots used regularly with medium shots and long shots. Close-ups display the most detail, but they do not include the broader scene.

Closure: Tendency to perceive a set of individual elements as one recognizable pattern.

Collage: An experimental film technique that entails gathering different textures, images, and drawings and placing them together to create a single picture.

Colour bars: Appear at the beginning of video to match colour from device to device and ensure broadcast quality.

Colour wheel: A visual aid for showing primary, secondary, and tertiary colours in any colour system.

Colour: All hues, including all levels of saturation and value.

Common fate: Objects moving in the same direction are perceived as being related whether or not they are.

Communication model: Different scenarios for conversation or interaction that include a sender, a receiver, a nil and a message.

Competitive advertising: benefits of a product, differentiating it from the competition.

Complementary: Colours directly across each other on the colour wheel.

Compositing: Layering images from different sources to create a single image.

Computer animation: Using a computer to achieve either 2D, 3D, or experimental animation.

Consumer: A person who purchases goods and services for personal use.

Content real estate: Division of images, text, navigation, and other elements on the screen.

Contrast: The state of being strikingly different from something else, typically
something in juxtaposition or close association.

**Convergence:** A trend in which single digital devices are able to perform multiple functions and play different types of media.

**Cool colours:** Greens, blues, and purples.

**Cut scenes:** Scenes that play at set points during a video game and are therefore not under the influence of the game’s player.

**Cut:** Instantaneous transition from one source to the next.

**Depth-of-field:** The distance between the nearest and the furthest objects that give an image judged to be in focus in a camera.

**De saturated:** Low levels of pure hue.

**Descenders:** Strokes of a letter that fall below the baseline.

**Direct-on-film:** A method of experimental filmmaking in which the filmmaker draws, paints, scratches, or burns images directly onto celluloid.

**Dispersion:** Elements all scattered about the frame.

**Dissolve:** Transparency levels of two overlapping sources that are altered during transition.

**Emoticons:** Graphics used in electronic communication that represent an emotion.

**Exclusion:** All elements but one is grouped together in the frame.

**Express emotions:** give verbal or other expression to one’s feelings.

**Flicker fusion:** The phenomenon that causes the eye to perceive separate static images as one constant image when the images occur at a certain speed per second. In the case of film, the eye perceives a constant image at twenty-four frames per second. With video it is thirty frames per second.

**Flue:** A duct for smoke and waste gases produced by a fire, a gas heater, a power station, or other fuel-burning installation.

**Focal points:** The point at which rays or waves meet after reflection or refraction, or the point from which diverging rays or waves appear to proceed.

**Focus:** Adapt to the prevailing level of light and become able to see clearly.

**Frame rate:** The rate at which single frames appear on screen to compose a single second of screen time.

**Frame:** Smallest component of film or video. Twenty-four frames make up a single second of film. Thirty frames make up a single second of video.

**Gathering:** Elements all grouped together in one quadrant of the frame.

**Gestalt principles of perception:** Explains how we perceive the graphic elements we see.

**Golden ratio:** Ratio elements within a form; specifically width to height.

**Graphic:** elating to visual art, especially involving drawing, engraving, or lettering

**Grid:** Set of imaginary lines that equally divide the design space.
High contrast: That area where the degree of difference between black and white approaches the maximum.

Hue: A visible colour on the colour spectrum.

Icon: Most closely resembles the sign with recognizable features; an example is a photograph.

Ideograph: Simple drawing that represents idea or abstract thought.

Illustration: A picture illustrating a book, newspaper, etc. An example serving to clarify or prove something: “a graphic illustration of the disaster that’s waiting to happen”.

Index: An Action that is understood universally mid is the physical manifestation of the sign in semiotics.

Jingles: To have the catchy sound of a simple, repetitious rhyme or doggerel.

Kerning: Adjusting the space between two characters.

Kinetic Typography: The technical name for “moving text” is an animation technique mixing motion and text to express ideas using video animation.

Kinetic: produced by motion

Kinetoscope: Invented by Thomas Edison and his assistant, W. K. L. Dickson, in 1891, it played back films shot with the kinetograph camera. Individual viewers could watch films through a peephole at the top.

Leading: Refers to the amount of space between lines of copy.

Legibility: Measures the ability to successfully read words as they are placed in the overall design.

Live-action: In filmmaking, video production, and other media, the term live action refers to cinematography, videography not produced using animation.

Low-key lighting: the lighting of a scene so that there is a great deal of contrast between dark and light areas, making artistic use of deep shadows.

Mean line: Invisible line that sits atop lowercase letters.

Mise-en-scene: Literally, put on the stage; everything that appears on screen that helps the audience understands the story.

Monochromatic: A colour scheme using one hue with the shades or tints of that hue.

Motion: The act or process of changing position or place.

Noise: Any type of interference that hinders communication.

Off-center: An element positioned to the left or right on screen.

Optical center: Natural center of the frame, based on our perception, not actual measurements.

Panorama: A picture or series of pictures representing a continuous scene, often exhibited a part at a time by being unrolled and passed before the spectator.

Persistence of vision: Theory formerly used to explain how motion was
perceived in film. It was believed that when the human eye retained a memory of an image a moment after it had disappeared, the various still images merged on the retina to become a moving image.

**Pictograph:** Simple drawing that represents a specific object.

**Pigment colour system:** Defined by non-digital colours, such as paint. The primary colours are red, yellow, and blue.

**Pin board:** An experimental form of animation created by pushing or pulling pins on a screen, thus creating images by the variation of shadows, greys, blacks, and whites.

**Pixel:** Picture element; the smallest component of a raster graphic, a single dot.

**Pixilation:** See stop-motion animation.

**Polygon:** Simplest component of a video game character; when manipulated and combined with other polygons the character’s form is created.

**Pre-production:** The planning process that precedes production and usually entails brainstorming, sketching roughs, storyboarding, and getting client approvals.

**Primary colours:** The three main colours from which all other colour is created in any colour system.

**Push:** One source is pushed out of the frame by another source during transition.

**Raster:** Any graphic made up of pixels.

**Readability:** Measures the ability to decipher the shapes of the letters that form a word.

**Rotoscopying:** Filming live-action footage and then hand-drawing over each frame in order to create realistic movement in animation.

**Rule of thirds:** The imaginary division of a grid into horizontal and vertical thirds; designers use the intersect points as guides for dynamic placement of elements within the design frame.

**Sand animation:** Experimental animation technique that animates different shades of sand using the stop-motion technique.

Sans serif: The lack of a finishing stroke off the main stroke of a letter.

**Saturation:** Intensity or amount of pure hue.

**Secondary colours:** The three colours made from combinations of the primary colours in any colour system.

**Semiotics:** Study of signs and their relationship to the actual object they represent.

**Serif:** The finishing stroke that emerges from the main stroke of a letter.

**Shades:** Darker values of a hue.

**Sign:** In semiotics, the written word or actual object.

**Signified:** In semiotics, the concept or idea elicited from signifier.
Signifier: In semiotics, the spoken word that refers to a concept.
Slide: One source enters the frame covering the other static source.
Snope: Mini advertisement for upcoming show that appears in the lower quadrant of the television screen.
Spectral band: Shows all colours we are able to see with the naked eye.
Split complementary: Three colours on the colour wheel: one plus colours from both sides of its complement.
Station ID: Identifier of logo of the television station, shown during commercial breaks.
Stop-motion animation: A technique used to animate objects by stopping the camera, adjusting the position of an object in the frame, and shooting one frame at a time; also referred to as pixilation.
Stop-motion camera: A technique used to make objects appear or disappear on screen by stopping the camera and adjusting the position of an object in the frame.
Storyboard: Sketches used to aid in the initial development of a design.
Subtractive colour system: Used for printed materials; cyan, magenta, and yellow are the primary colours.
Symbol: Represents the idea or concept of the sign without any recognizable features of the sign itself.
Tertiary colours: The colours made from combinations of primary and secondary colours in any colour system.
Tint: Lighter values of a hue.
Title cards: Placards with text used to convey information about the storyline or production of the film to the audience.
Title safe: The designated area in which type will be displayed without risk of distortion when viewed on television or other video screen.
Tracking: Equally adjusting the space between letters in a word, sentence, or paragraph.
Traditional colour system: See pigment colour system.
Value: Overall darkness or lightness of the hue.
Vector: Graphic made up of computer code, composed of Os and is.
Visual hierarchy: Laying out graphic elements in a manner that confers different levels of visual importance to each element.
Warm colours: Oranges, yellows, and reds.
Webbing: A form of brainstorming that entails making connections between words associated with a particular concept.
Weight: How thin or thick the stroke of a letter is.
Width: How narrow or wide in individual letter is.