ESTABLISHING A MODERN UNDERGRADUATE PROGRAM FOR DIGITAL PAINTING AND NEW MEDIA IN THE FACULTIES OF FINE ARTS IN EGYPT

التعليم والتكنولوجيا الرقمية: المنظومة القومية للتعليم الجامعي وتطبيقات التكنولوجيا الرقمية

استحداث برنامج للتصوير الرقمي والوسائط الجديدة بكليات الفنون الجميلة في مصر

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ABSTRACT

Modern technologies have facilitated use of digital media in many fine arts' graduates' artworks. Many businesses' adoption of such technologies also encouraged graduated to further their education to meet employment market's demands. Thus, it has become necessary for Egypt' Faculties of Fine Arts to offer undergraduate programs capable of qualifying students for such trends.

Through descriptive analysis methodology, this research investigates the possibility of establishing Digital Painting and New Media undergraduate program within Painting Department of the Faculty of Fine Arts, Mansoura University. First, by portraying role of digital media in contemporary artforms. Second, offering an overview of undergraduate digital art programs worldwide and undergraduate programs of Egypt's Faculties of Fine Arts. Finally, proposing rough outline of the program. Results include necessity of keeping up with current trends towards digital transformation. Recommendations include establishing proposed program in the faculty of Fine Arts Mansoura University and Fine Arts' Faculties in Egypt.

KEYWORDS

Undergraduate Fine Arts Programs; Digital Painting; New Media Art.

الملخص

أتاحت التكنولوجيات الحديثة في الواقع المعاصر المجال أمام العديد من خريجي كليات الفنون الجميلة لاستغلال الوسائط الرقمية في أعمالهم الفنية. كما شجعهم تبني العديد من جهات الأعمال للرقمية على استكمال دراستهم بعد التخرج لمواكبة متطلبات سوق العمل، فأصبح من الضروري مواكبة كليات الفنون الجميلة في مصر لهذا التطور الكبير عبر تقديم برامج جامعية تستطيع تأهيل الطلاب لتلك الاتجاهات الحديثة.

من خلال المنهج الوصفي التحليلي يهدف البحث لدراسة إمكانية تأسيس برنامج للتصوير الرقمي والوسائط الجديدة يتبع قسم التصوير بكلية الفنون الجميلة جامعة المنصورة. وذلك عن طريق التعرف على دور الوسائط الرقمية في أشكال الإبداع الفني المعاصر وبخاصة التصوير، ثم تقديم نماذج من برامج الفنون الرقمية في بعض جامعات العالم، وعرض سريع للبرامج الجامعية بكليات الفنون الجميلة في مصر، ثم تقديم مخطط توضيحي للبرنامج المقترح. ومن أهم نتائج البحث ضرورة مسايرة الاتجاهات العالمية نحو التحول الرقمي، ويوصى البحث بإنشاء وتفعيل البرنامج المقترح بكلية الفنون الجميلة جامعة المنصورة وكليات الفنون الجميلة في مصر.

الكلمات المفتاحية

برامج الفنون الجميلة الجامعية؛ التصوير الرقمي؛ فنون الوسائط الجديدة.

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1. INTRODUCTION

With the great and rapid development of digital technologies since about the second half of the twentieth century came the growing trend towards using computers in the creative process of various works of art. By the beginning of the twenty-first century, artists', and creators' tendency to take advantage of digital media increased in strength, and digital works of all kinds increased in popularity and diversity. It is hardly surprising as today we live in a world that is moving more than ever towards digital transformation in various technical and non-technical fields.

Followers of the various activities and happenings of the art scene; exhibitions, symposiums, forums, biennales, and other such fine arts events whether globally or locally will find great diversity in the forms of artworks presented. From well-known traditional artworks genres such as drawing, painting, printmaking, sculpture, to other new forms that digital technologies have contributed to their production one way or another, such as video art, installation, interactive art, web art or other works that utilize the abundance of data nowadays in what is known as data manipulation art. Now, all these works and all the artworks using digital technology, in one way or another, is referred to with the term "*new media art*".

What these new artworks represented is a kind of an escape from the established barriers between well-known forms of artistic expression in fine arts, such as painting, printmaking, or sculpture. Thus, determining to which art form such new artworks belong became increasingly difficult, which in turn lead to the emergence of new artistic expressions that could much better describe those seemingly hard to classify artworks, such as *Visual Arts, Media Art, Digital Art, or New Media Art*. Most of these new expressions referred to the medium used to produce such works; which is the *Digital Medium*, for the most part; the computer. While other terms, namely *Visual Art*; gave the art scene an umbrella term to house all ambiguous hard to classify artworks.

Digital technologies have also introduced new artistic professions for graduates of art colleges, particularly fine arts colleges who want to head towards professional artistic careers in the market. Many businesses today have adopted digital technologies in one way or another, therefore it has become necessary for fine art colleges to keep up with new developments, whether in the art scene, or in the job market to offer undergradute programs capable of qualifying students for such modern trends and developments.

The research herein presents a rough outline for the establishment of a *Digital Painting and New Media* undergradute program within *Painting Departments* of the *Faculties of Fine Arts* in Egypt in general, and the *Faculty of Fine Arts*, *Mansoura University* in particular. First, the research will illustrate the importance of such program by recognizing the role of *New Digital Media* in contemporary art forms. Second, an overview of three undergradute programs offered by three different art colleges in three different continents: namely North America, Europe, and Asia. Third, an overview of the undergradute programs offered by the Faculties of Fine Arts in Egypt especially through Painting Departments. Finally, a rough outline and description of the proposed program.

2. RESEARCH PROBLEM

Given the rare role of New Media in painting undergradute programs within the Faculties of Fine Arts in Egypt, the problem this research tackles lies in the following questions:

- What is the role of New Digital Media in the contemporary art forms, particularly painting?

- What are the most important international undergraduate programs that offer Digital Painting and New Media programs?
- What is the possibility of establishing an undergraduate university program for Digital Painting and New Media within the Departments of Painting at the Faculties of Fine Arts in Egypt?

3. RESEARCH OBJECTIVES

- To establish the role of New Digital Media in the contemporary art scene teeming with new, diverse, and difficult to classify art forms.
- To learn about several undergraduate digital art programs offered by distinguished art colleges and universities from different parts of the world.
- To Introduce an outline of a new Digital Painting and New Media undergraduate program to be offered by the Painting Departments of the Faculties of Fine Arts in Egypt, and in particular the Painting Department within the Faculty of Fine Arts Mansoura University.

4. RESEARCH ASSUMPTIONS

- The research herein assumes that New Digital Media have become an integral part of newest artworks presented within the art scene whether in Egypt or around the world.
- That establishing an undergraduate program for Digital Painting and New Media within the Painting Departments of the Faculties of Fine Arts in Egypt has become a must considering the status quo of the contemporary art scene and the increasingly digitally transforming job market.

5. RESEARCH IMPORTANCE

The importance of this research lies in highlighting the importance of establishing an undergraduate program for Digital Painting and New Media within the Painting Departments of the Faculties of Fine Arts in Egypt to prepare and qualify graduates to keep pace and compete with the latest developments in the art scene and in the labor market.

6. RESEARCH LIMITATIONS

- **Time limits of the research**: The research herein is limited to the present day and the beginnings of the 21st century.
- **Spatial boundaries of research**: The spatial boundaries of the research herein are for the most part limited to Egypt and the Western world; particularly United Kingdom, Canada, and Singapore.
- **Research subject limits**: The research herein is limited to discussing New Digital Media art forms, undergraduate programs offering digital art forms programs in some parts of the world and a proposed outline of a Digital Painting and New Media undergraduate program to be established in the Faculties of Fine Arts in Egypt.

7. RESEARCH METHODOLOGY

The research follows a descriptive analytical approach to:
- Discuss and better understand the role of digital media in the fine art scene.
- Present some of the undergraduate digital media programs offered by art colleges in some parts of the world.
- Explain and evaluate undergraduate programs offered by the Faculties of Fine Arts in Egypt and within the Painting Departments in particular.

- Describe the outline of the new *Digital Painting and New Media* undergraduate program proposed herein.

8. PRESENTATION AND ANALYSIS

Presentation and analysis of the research topic will be divided into the following sections:
- Role of new digital media on the contemporary art scene.
- Prominent new digital media undergraduate Programs.
- Egypt's Faculties of Fine Arts undergraduate programs.
- The proposed program for Digital Painting and New Media.

9. ROLE OF NEW DIGITAL MEDIA ON THE CONTEMPORARY ART SCENE

Contemporary art presents a dilemma that have long faced the world of art, and indeed societies too, which is: whether to stick with the old or embrace the new. In other words, the limited view of the potentials of change. Some take a conservative stance, preferring what they know to what they don't know, while others adopt novelty without full awareness of its potentials. In his book *Understanding Media,* the philosopher and media expert **Marshall McLuhan** (1911-1980) (McLuhan, 2005) compares this dilemma to the ancient man's use of the wheel; without really knowing its potentials early human used the wheel as a tool to help him move his belongings from one place to the other easily. This simple wheeled cart, that he pushed himself or used domesticated animals to help him move it, eventually lead to the developments, and even civilization of today (McLuhan, 2005).

The wheeled cart paved the way to cars and trains, which made traveling and transporting goods easier and faster. Moreover, the presence of cars and trains lead to the pavement of roads and the construction of suitable railway lines, new towns and more trade were soon to follow. Wheels also led to gears, which lead to machines, then factories, which was eventually followed by the establishment of new cities. Also, cinema emerged from film reels. Towns, cities, trade, industry, and art were not foreseen by early man when he first used the wheel to move around. Civilization of today with all its complexity owes its existence, to a great extent, to this simple invention; the wheel (McLuhan, 2005).

New media art resembles in many ways the story of the wheel, to those who witness its birth, new media art is just a cart without a horse; to them what is new is using an engine instead of a horse to do the same thing; moving the cart from one place to the other, but to those who look at the birth of the technology from far into the future; the ramifications of such change is nothing short of epic as explained by the researcher **Giulio Lughi** (Lughi, 2014) in a research he authored about New Media art.

what new media art represent in the fine arts scene today is the tip of the iceberg, from our contemporary perspective new media art is merely the link between art as we know it, practice it and teach it to our students in art colleges and academies, and the unpredictable possibilities far into the future. New media stand today between the past and the future; on one hand by breathing new life in the treasures of the past namely the traditional analogue art forms, and on the other hand with its ability to create new innovative art forms depending mainly on the unique features of the digital medium such as interactivity **Lughi** explains (Lughi, 2014).

Talking about digital media may lead us to define **new media art**, which is not as easy as some might think, especially at the present time. New media art can be defined today as digital interactive artwork that use the Internet as an exhibiting platform or as a tool, thus becoming, to a large extent, the space

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or tool that the artist can use to display and produce contemporary artworks of all types, which means that **analogue art forms** such as painting or sculpture could be defined as new media arts with some new added digital features such as digital animation or interactivity (Pereira, 2015).

A good example of this is the artwork titles: "**Random Fear with Mirrors**" by the Dutch-Brazilian artist **Rafaël Rozendaal** (Fig. 1), the work resembles the geometric abstract paintings of his famous native painter **Piet Mondrian** (1872-1944), except in his work **Rozendaal** introduced the abstract shapes in a form of installation, combining both traditional and digital media as he digitally projected his colorful shapes on the gallery walls with added movement, while all this shapes and colors interchanging positions are reflected on pieces of broken mirrors on the gallery floor (Rozendaal, n.d.). Most artworks of the artist share a common tendency towards geometric abstraction coupled with forms of interactivity or movement interaction (Rafaël Rozendaal, nd). The artwork was exhibited at *Kunsthal Art Museum* in Rotterdam, Netherlands, 2019, and is from the collection of Dutch Indian Businessman *Rattan Chadha* (Rozendaal, n.d.).

Figure 1, Rafaël Rozendaal, Random Fear with Mirrors, Video Projection & Mirrors, Source: (Rozendaal, n.d.)

To understand the beginnings of New Media Art, we go back to art in the early and mid-20th century. Artists of that era steered away from all traditional or familiar art forms, themes, or tools, they used newspaper clippings, paper, fabrics, ropes and all sorts of readymade Objects, giving way to new art forms such as collage and new movements such as Dada, thus extending the definition and tools of painting from the classical use of paint on canvas to other new innovative tools and ideas, those early attempts to move beyond the brush and the canvas as explained by Michael Rush (Rush, 2005) in his book New Media in Art, were the seed of new media art especially after digital technology was introduced to the scene (Rush, 2005).

In fact, the problem in defining new media art is primarily due to the name. Many forms of modern arts, besides painting such as, installation, interactive, conceptual, video, and other artworks are primarily called different names according to the way they are produced, thus, the term *new media arts* or *media arts* are defined as a comprehensive general term that combines many contemporary styles and artistic trends under its umbrella (Pereira, 2015).

Nevertheless, when talking about the art of "**new**" media today, we find that the term primarily refers to *digital art*, or the art that use modern "*digital*" media as opposed to that which uses traditional "**old**" media such as oil or acrylic paint for example (Mokhtar, 2013). Therefore, New media art, even though

it's hard to reach a common consensus about its definition, is generally synonymous to contemporary digital arts, among which is digital painting (Mokhtar, 2013).

Justifiably, we can view digital painting as an extension of classical painting; where artists use digital media much like classic non-digital media (Mokhtar, 2013). In the painting "**Is it really you**" (Fig. 2) digital painter **Ivana Lena Besevic** used computer software, namely *Adobe Photoshop* and *Corel Painter* (Besevic, 2019) to paint a portrait of a woman that appears as if painted using oil colors on canvas. Beside the artist's mastery in her use of color and the impressionist styled depiction of her model, the painting shows emotionally charged brushstrokes, a trait usually linked to traditional painting, which is usually credited the use of graphic tablets - such as the ones produced by *Wacom* widely popular among digital artists today - which made digital painting much easier and greatly intuitive.
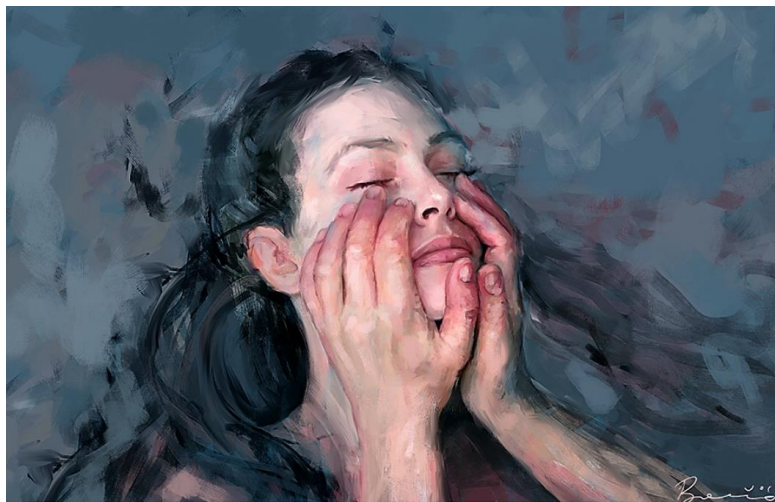

Figure 2, Ivana Lena Besevic "Is it really you", Digital Painting, Source: (Besevic, 2019)

However, **digital painting** goes beyond this somewhat limited view; it involves the use of computers and other digital media, which means the importance of acquiring vital knowledge relating to the inner workings of computers and digital devices. It is also vital to know about digital imagery; how they are produced, processed, saved, and displayed by various devices. In fact, a digital painting is just binary data of the lines, shapes form and colors that represent the final painting at the end (Mokhtar, 2013). Digital painters work with both hardware and software. Hardware are the electronic components of the computer, mobile phone or tablet devices. while software are the programs that help the artist control those devices. Software used by artists usually start with the operating system of the diverse itself, the artistic applications of their choice, and many other application programs that can aid them in their artistic endeavors (Mokhtar, 2013) .

However, even if some might still view digital painting as an extension of traditional painting, digital painting still has its own exclusivity, whether in the manner the paintings are produced, or the possibilities digital painting offers for artists. For instance, the toolbox of a traditional painter may hold brushes and paints but compared to the toolbox of a digital painter it certainly holds more tools and commands only the digital medium could offer, such as reverse deletion with the undo option, working in layers, using filters and effects, or producing perfect lines, shapes, and gradients easily and quickly to name a few (Ven, 2020) .

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Moreover, paintings through the digital medium has transcended today the traditional concept of painting altogether; with the introduction of the capabilities of programming and data manipulation algorithms in the artistic process, or what is known as *Data Driven Art*, as shown in the painting "**Datascapes No.04**" by the digital artist **Dimitris Ladopoulos** (Fig. 3), the painting, which appears to be a depiction of a landscape, is just information presented visually, which is done by controlling data through programming, the results of the process is then displayed visually as an image or a painting, the method used by **Ladopoulos** here is called **Pixel Sorting** (Ladopoulos, 2019).

Figure 3, Dimitris Ladopoulos "Datascapes No.04", Pixel Sorting Digital Painting, Source: (Ladopoulos, 2019)

Beside data driven paintings, interactivity and movement, digital painting can also make use of many digital technologies such as virtual reality, augmented reality and of course the internet, which all represent the revolutionary new media of the digital contemporary painter.

In conclusion, we are not aiming herein at comparing traditional to digital painting, both have their own appeal, artists, and audience. Many contemporary art shows exhibit both. In the case of digital art in general the defining names might vary, such as *Media Art*, *Video Art, Web Art, Data Driven Art* and so on, but the most agreed upon term relating to the digital medium use in the artistic process today appears to be *New Media Art*, which represent a great portion of the fine arts scene whither in Egypt or around the world.

10. PROMINENT NEW DIGITAL MEDIA UNDERGRADUATE PROGRAMS

Currently, most art colleges around the world offer multiple undergraduate programs specialized in one or more areas of digital art. What is evident is the overlap of artistic classifications and the disappearance of the boundaries between one form of art and another, which in a way reflects the intermingling of art forms on the contemporary art scene. Thus, on one hand, and as previously mentioned, emerged general terms that could apply to many diverse art forms such as *Visual Arts*, even if this term is usually used in the context of fine arts and new media digital arts to a great extent. On the other hand, we began to hear other very specific very specialized terms such as *Web Art, or Algorithmic Art*, both referring to the specific tool within the digital realm that were used to produce such arts.

The following is a presentation of three undergraduate programs from three different art colleges around the world, the choice of the programs adhered to the following considerations:

- The colleges or universities offering the undergraduate program are chosen from different parts of the world. The selected colleges are from: Canada in North American, the United Kingdom in Europe, and Singapore in Asia.
- Choosing ranking colleges or universities, especially in the field art and design whenever possible.
- The undergraduate programs that offer a bachelor's degree in fine arts (BFA).
- The undergraduate programs that offer a specialized study for at least four years.
- The undergraduate programs with Digital Drawing and Painting within the program's curriculum.

The undergraduate programs to be discussed with some details are as follows:
- **BA Fine Art Computational Arts**, Camberwell College of Arts, University of the Arts London.
- **Bachelor of Fine Arts in Media Art**, School of Art, Design and Media (ADM), Nanyang Technological University, Singapore.
- **Bachelor of Fine Arts in Drawing & Painting: Digital Painting and Expanded Animation**, Faculty of Art, OCAD University (the Ontario College of Art and Design University), Canada.

10.1 BA FINE ART COMPUTATIONAL ARTS, CAMBERWELL COLLEGE OF ARTS, UNIVERSITY OF THE ARTS LONDON

University of the Arts London is ranked second in the field of *Art & Design* according to *QS Top University Ranking* (Top Universities Art & Design, 2021). The university includes many art colleges and institutes which offer diverse studies in art and design such as, *Chelsea College of Arts, Wimbledon College of Arts, and Camberwell College of Arts* (Colleges and Institutes, 2021).

All programs offered by the university began with a *Foundation Diploma* to help students choose the desired field of study in one of the university colleges afterwards (Pre-degree Foundation Diploma in Art and Design, 2021). In the foundation year the student chooses between two modes of study; *Diagnostic mode* and *Specialist mode*, the first is intended for the student, who has not yet identified a desired area of study, therefore the university offers a wide variety of courses to introduce the student to future fields of study at the university, while the second mode, Specialist mode, is intended for the

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student who has a good knowledge of the field they wish to study, thus they choose beforehand a specific Pathway from three offered pathways; *Art*, *Design*, or *Communication*, within every one of those pathways a number of specialized courses needed for the desired field of study such as: *Drawing*, *Painting,* or *Time-Based Media* and so (Pre-degree Foundation Diploma in Art and Design, 2021).

The university's *Camberwell College of Arts* offers several undergraduate programs among which **BA Fine Art Computational Arts**, other programs include *BA Fine Art Drawing, BA Fine Art Painting, BA (Hons) Graphic Design, and BA Fine Art Sculpture* (Camberwell Undergraduate courses, 2021), which as we will see in this research greatly resembles the programs offered by the Faculties of Fine Arts in Egypt.

The Bachelor of Fine Arts Computational Arts program of *Camberwell College* aims to introduce students to new technologies that change the boundaries between art and culture in the contemporary art scene (BA (Fine Hons) Fine Art: Computational Arts, 2021). The study is divided into three stages over three years, each year includes 30 study weeks, with approximately forty hours per week divided between lectures and self-study, courses include extensive training aimed at developing their skills and knowledge in fine arts, digital media arts and contemporary culture (BA (Hons) Fine Art: Computational Arts, 2021).

10.2 BACHELOR OF FINE ARTS IN MEDIA ART, SCHOOL OF ART, DESIGN AND MEDIA (ADM), NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE

Bachelor of Fine Arts in Media Art is a program offered by the School of Art, Design and Media (ADM) of Nanyang Technological University in Singapore, the university is ranked 12th in the world, third in Asia, and first in the field of Arts & Design according to QS Top University Ranking classification (Nanyang Technological University Singapore, 2021).

The program is one of two programs in fine arts that the *School of Art and Design, and Media Arts* offers to its students to choose from: the first is *Bachelor of Fine Arts in Design Art* and the second is *Bachelor of Fine Arts in Media Art,* each of these programs is further divided into pathways, the first is divided into three pathways: *Interaction Design, Product Design,* and *Visual Communication,* the latter is divided into four pathways: *Digital Animation, Game, Digital Filmmaking*, and *Photography and Digital Imaging* (Bachelor of Fine Arts, 2021).

The two programs consist of four full-time study years, starting with a foundation year of two semesters in which students' study 39 credit hours in art studio modules, theoretical modules, and other Modules in *Media Art* or *Design Art* depending on the desired future pathway, students' academic load per semester ranges from 15 to 20 credit hours (Bachelor of Fine Arts, 2021).From the second to the fourth year of study, according to the desired pathway, students enroll in several *specialized pathway courses*, *compulsory core major courses*, in addition to other offered *elective courses* that could be compulsory in one pathway and elective in the other (Bachelor Fine of Arts, 2021).

The *Bachelor of Fine Arts in Media Arts, Photography and Digital Imaging Major* degree consists of 130 credit hours in addition to a *Minor degree* that students can register in from any of the programs offered by the university colleges, the *Minor* degree hours range from 15 to 16 credit hours (Bachelor of Fine Arts, 2021). Besides, all students are required to complete 10-week field training period in major companies or art production studios as a requirement for the bachelor's degree in either of the programs offered by the university's *School of Art, Design and Media* (Bachelor of Fine Arts, 2021).

Looking at the content of the two main programs offered by the School of Art, Design and Media, whether *Design Art* or *Media Art*, we can find many courses that combine traditional *Painting and Fine Arts* courses, such as: *Drawing*, *Painting*, *Design*, and *Art History*, as well as many other courses in *Digital Painting* and *New Media Art*, according to the chosen pathway, such as: *2D* and *3D* D*igital Drawing, Digital Painting, Digital Composition, Game Design, Visual Effects* and *Digital Animation*, which are all courses that significantly prepare graduates for the job market in any contemporary art field of business.

10.3 BACHELOR OF FINE ARTS IN DRAWING & PAINTING: DIGITAL PAINTING AND EXPANDED ANIMATION, FACULTY OF ART, OCAD UNIVERSITY, CANADA

The *Faculty of Art* at the *University of Ontario College of Art and Design OCAD*, in Canada is one of the colleges offering an undergraduate program that offers students' a specialized study in *Digital Painting* as well as *Animation*, the college classified ranking is between 101-150 according to QS Top University Ranking classification (OCAD University, 2021).

The *Bachelor of Fine Arts* offered by the college consists of many undergraduate programs such as: *Drawing & Painting*, *Integrated Media*, *Printmaking & Publications*, and *Sculpture & Installation* (Faculty of Art, 2021). As we will see next, many of these programs greatly resemble the ones offered by the *Faculties of Fine Arts* in Egypt.

In addition, the college also offers *Digital Painting & Expanded Animation* program, which is offered within either *Drawing & Painting* or *Integrated Media* programs, the difference being that the focus on *Digital Painting* is higher in the first program and the focus on *Animation* is higher in the second program, Students of both programs will get though a comprehensive background in *3D Modeling, Texturing and Rendering, Digital Painting & Composition* (Drawing & Painting: Digital Painting & Expanded Animation, 2021).

The duration of the program is 4 years and students need 20 credit units to graduate; these units are calculated according to the following: a 0.5 credit units course consists of 3 contact hours per week for 12 weeks per semester, while a 1.0 credit units course consists of 6 contact hours per week for 12 weeks per semester, which means that a 0.5 credit units course consists of 36 contact hours per semester and a 1.0 credit units course consists of 72 contact hours per semester, amounting to 144 hours per academic year (OCAD University Undergraduate Academic Regulations & Procedures, 2019)

In addition to those credit units, further 0.5 credit unit is to be registered for an elective course in Liberal Arts & Sciences, and at least 1.5 credit unites to be registered in courses offered by the college in levels 3 and 4, which adds 2 more credit units to the graduation requirements of the program (OCAD University Undergraduate Academic Regulations & Procedures, 2019).

Courses offered by the program include Drawing Across Disciplines, Painting, Form & Structure, Painting Studio, Painting and Digital Imaging, Paint and Digital: Collaboration, Paint and Digital: Production, 3D Modeling and Animation, Advanced Compositing to name a few (Drawing & Painting: Digital Painting & Expanded Animation, 2021). Even though, the program hours are not as extensive as the other two programs previously mentioned, it has the added advantage of offering an extensive specialized study in Digital Painting, it also starts with courses in traditional Drawing and Painting, especially in the first year, which builds students experiences in traditional media before moving on to digital media, which is to a great degree what the proposed program for Digital Painting & New Media proposed in this research aims to achieve.

11. EGYPT'S FACULTIES OF FINE ARTS UNDERGRADUATE PROGRAMS

The following section lists the undergraduate programs offered by the *Faculties of Fine Arts* in Egypt to understand the necessity of establishing a new *Digital Painting & New Media* program within the *Painting Departments* of these Faculties. In total, there are 6 Faculties of Fine Arts in Egypt within the following universities:

Helwan University in Cairo, Alexandria University in Alexandria, Minya University in Minya, Luxor University in Luxor, Mansoura University in Mansoura, and Assiut University in Assiut.

11.1 FACULTY OF FINE ARTS, HELWAN UNIVERSITY, CAIRO

Faculty of Fine Arts, Helwan University, consists of five departments in addition to the department of Art History, which offers postgraduate studies, the five undergraduate departments are as follows:

- Architecture,
- Interior Design or Décor: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Graphics: The department offers two programs: *Printed Design* and *Animation & Book Art*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers two programs: *Field Sculpture* and *Relief & Medallion Sculpture* (اللائحة الداخلية لكلية الفنون الجميلة جامعة حلوان، ١٩٧٨).

The duration of all undergraduate programs offered by the faculty departments is five years starting with a preparatory year for the *Department of Architecture*, a preparatory year for the *Department of Interior Design* or *Décor*, and a preparatory year for the *Arts Departments* which include: *Graphics, Painting* and *Sculpture*, this first year is followed by two years of *Main Program Courses* then two more years of *Core Program Specialized Courses* such as in the case of *Painting* Department, *Painting* or *Mural Painting,* all courses offered by the *Painting Program* in general does not include any *Digital* or *New Media* Courses (اللائحة الداخلية لكلية الفنون الجميلة جامعة حلوان، ١٩٧٨).

11.2 FACULTY OF FINE ARTS, ALEXANDRIA UNIVERSITY, ALEXANDRIA

Faculty of Fine Arts, Alexandria University, consists of five undergraduate departments in addition to two more postgraduate departments: *Art History* and *Architecture Renovation*, the five undergraduate departments are as follows:

- Architecture,
- Decoration: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Printed Design: The department offers three programs: *Printmaking*, *Publishing & Illustration*, and *Graphic & Communication Design*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers four programs: *General Sculpture, Field Sculpture, Ceramics Sculpture*, and *Medallion Sculpture* (اللائحة الداخلية لكلية الفنون الجميلة جامعة الأسكندرية، ١٩٨٩).

The duration of all undergraduate programs offered by the faculty departments is five years starting with a preparatory year for the *Department of Architecture*, a preparatory year for the *Department of Decoration*, and a preparatory year for the *Arts Departments* which include: *Printed Design, Painting* and *Sculpture*, this first year is followed by two years of *Main Program Courses* then two more years of *Core Program Specialized Courses,* all courses offered by the *Painting Program* in general does not include any *Digital* or *New Media* Courses (اللائحة الداخلية لكلية الفنون الجميلة جامعة الأسكندرية، ١٩٨٩).

11.3 FACULTY OF FINE ARTS, MINYA UNIVERSITY, MINYA

Faculty of Fine Arts, Minya University, consists of seven undergraduate departments as follows:

- Architecture,
- Decoration: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Graphics: The department offers two programs: *Printed Design* and *Book Art*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers three programs: *Field Sculpture, Relief & Medallion Sculpture,* and *Ceramics Formation*,
- Restoration & Antiquities Maintenance,
- Animation & Cartoon (اللائحة الداخلية لكليةالفنون الجميلة جامعة المنيا، ١٩٩٨).

The duration of all undergraduate programs offered by the faculty departments is five years starting with a preparatory year for the *Department of Architecture*, a preparatory year for the *Department of Decoration*, and a preparatory year for the *Arts Departments* which include: *Graphics, Painting, Sculpture*, *Restoration & Antiquities Maintenance* and *Animation & Cartoons*, this first year is followed by two years of *Main Program Courses* then two more years of *Core Program Specialized Courses* (اللائحة الداخلية لكليةالفنون الجميلة جامعة المنيا، ١٩٩٨). The *Painting Program* of the Faculty of Fine Arts Minya University, includes though a course in *Computer Drawing & Painting*, the course in offered in the second semester of the third year of study in the *Main Painting Program Courses*, and in the fourth year in the *Core Painting Courses* as a supplementary 2 contact-hour lecture course with no exercises' hours, and in the second semester of the fifth year through the *Core Painting Courses* as a 3 contact-hour course with 2 hours for lecture and 1 hour for exercises (اللائحة الداخلية لكليةالفنون الجميلة جامعة المنيا، ١٩٩٨).

Which makes the program one of only two Painting programs throughout Fine Arts Faculties in Egypt that offer courses in Digital Painting, even if it is not as comprehensive as the current times demand, the other Program offering Digital Painting courses is offered in the Faculty of Fine Arts Mansoura University.

11.4 FACULTY OF FINE ARTS, LUXOR UNIVERSITY, LUXOR

Faculty of Fine Arts, Luxor University, consists of four undergraduate departments as follows:
- Decoration: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Graphics: The department offers two programs: *Printed Design* and *Animation & Book Art*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers two programs: *Field Sculpture* and *Relief & Medallion Sculpture* (كلية الفنون الجميلة جامعة الأقصر، ١٩٩٦).

The duration of all undergraduate programs offered by the faculty departments is five years starting with a preparatory year for the *Department of Decoration*, and a preparatory year for the *Arts Departments* include: *Graphics, Painting* and *Sculpture*, this first year is followed by two years of *Main Program Courses* then two more years of *Core Program Specialized Courses,* all courses offered by the *Painting Program* in general does not include any *Digital* or *New Media* Courses (كلية الفنون الجميلة جامعة الأقصر، ١٩٩٦).

11.5 FACULTY OF FINE ARTS, MANSOURA UNIVERSITY, MANSOURA

Faculty of Fine Arts, Mansours University, consists of five undergraduate departments as follows:
- Architecture,
- Decoration: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Graphics: The department offers two programs: *Printed Design* and *Animation & Book Art*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers two programs: *Field Sculpture* and *relief & Ceramics Sculpture* (جامعةالمنصورة، ٢٠١٤).

The duration of all undergraduate programs offered by the faculty is five years starting with a preparatory year for the *Department of Architecture*, and a preparatory year for the *Arts Departments* which include: *Decoration*, *Graphics, Painting* and *Sculpture*, unlike all other programs offered by the other Fine Arts Faculties in Egypt this first year is followed by another year of *Main Program Courses* then three more years of *Core Program Specialized Courses* (جامعةالمنصورة، ٢٠١٤).

Digital courses offered by the faculty programs also distinguish it from the other Fine Arts Faculties in Egypt. In the Preparatory year for all programs, *Computer Fundamentals* course is a required course for all students, and in the preparatory year of the *Arts Departments* we can find another course in *2D Computer Drawing*, both offer 2 hours of laboratory training per week, also the *Core Specialization Courses* of the Painting Program include a 3 contact-hour course with 2 hours of laboratory training in *Digital Drawing* and another one with the same amount of hours in *Digital Painting* offered in the third year, and a course in *Digital Media & Video Art* with one contact-hour of lecture and 4 contact-hour of laboratory training per week

(جامعةالمنصورة، ٢٠١٤), which makes the Faculty of Fine Arts Mansoura University the Faculty offering most courses in *Digital Painting* and *New Media* among all similar Faculties in Egypt.

11.6 FACULTY OF FINE ARTS, ASSIUT UNIVERSITY, ASSIUT

Faculty of Fine Arts, Assiut University, consists of five undergraduate departments as follows:

- Architecture,
- Decoration: The department offers two programs: *Interior Architecture* and *Expressive Arts*,
- Graphics: The department offers two programs: *Printed Design* and *Animation & Book Art*,
- Painting: The department offers two programs: *Painting* and *Mural Painting*,
- Sculpture: The department offers two programs: *Field Sculpture* and *Relief & Medallion Sculpture* (كلية الفنون الجميلة جامعة أسيوط، ٢٠١٦).

The duration of all undergraduate programs offered by the faculty departments is five years starting with a preparatory year for the *Department of Architecture*, a preparatory year for the *Department of Decoration*, and a preparatory year for the *Arts Departments* include: *Graphics, Painting* and *Sculpture*, this first year is followed by two years of *Main Program Courses* then two more years of *Core Program Specialized Courses,* all courses offered by the *Painting Program* in general does not include any *Digital* or *New Media* Courses (كلية الفنون الجميلة جامعة أسيوط، ٢٠١٦).

Despite the *Digital Painting* courses offered by some fine arts colleges in Egypt, namely the ones in Minya and Mansoura, these courses are still not sufficient to qualify graduates to really compete in the contemporary art scene or the job market, which are both moving extremely fast towards digital transformation. Thus, emerges the need for the proposed program of Digital Painting & New Media discussed in the following few pages.

12. PROPOSED PROGRAM FOR DIGITAL PAINTING AND NEW MEDIA

12.1 PROGRAM OBJECTIVES

Digital Painting & New Media Program proposed herein aims primarily to train students in the use of new digital media in painting as well as many contemporary creative artistic practices. The Program offers students the training needed to participate in the contemporary art scene as well as in the job market through many practical specialized courses in both traditional drawing and painting as well as Digital Painting and New Media. Moreover, the program includes sufficient studies in other courses needed to build students' knowledge and experiences, such as: general and specialized Art history, Principles of Design, Color theory, Drawing Perspective, Anatomy for Artists to name a few.

12.2 PROGRAM STRUCTURE AND COMPONENTS

- **Degree**: Bachelor of Fine Arts (BFA).
- **Scientific department granting the degree**: Painting Department, Faculty of Fine Arts, Mansoura University.
- **Study system**: Credit hours.
- **Language of study**: English
- **Mode of Study**: Full-time.
- **Graduation requirements/number of hours or units**: For the bachelor's degree of fine arts are 160 credit hours.
- **Duration**: 10 semesters, from 4 to 5 years of study, and to earn the degree in 4 years' student must have a GPA of 3.0 or higher to enroll in up to two summer semesters after the second and third levels of study.

The Degree granted by the program is the bachelor's degree of Fine Arts BFA, which requires clarification between two types of bachelor's degree; *Bachelor of Arts BA* and *Bachelor of Fine Arts BFA*, the first is considered an *Academic* degree, while the second, the BFA is more of a *Professional* degree (Schools, 2021). BFA usually require more **specialized creative credits**, amounting to around **two-thirds or 75%** of the total credit hours of the program granting the degree, the other remaining third includes **academic or liberal credits** (Gazette, 2021).

The proposed program here offers students **83 credit hours in primary creative courses** in addition to **45 credit hours in secondary specialization courses** with a total of **128 credit hours**, which exceeds 75% of the total 160 credit hours of the program with a percentage of **80%** of the total credit hours of the program. The other 20% is divided among other academic and social credits. University and faculty required credits are distributed among total credits of the program.

12.3   GUIDELINES FOR THE CREDIT HOURS OF THE PROGRAM

- **Theoretical lectures:** For each one contact-hour of lecture time per week during a semester one-credit hour is granted.
- **Practical Courses (Studio, Laboratory, or workshops):** For each two contact-hours of practical training time per week during a semester one-credit hour is granted.

12.4   PROGRAM ADMISSION REQUIREMENTS

In general, the program requires the admission of students with a high school degree or its equivalent - any high school specialization divisions - after passing the Faculties of Fine Arts artistic abilities exam in accordance with the admission requirements set by the higher Council of Universities in Egypt. Also, at least a passing grade of 75% of English is required in high school or its equivalent.

12.5   SYSTEM OF STUDY

In the preparatory year of the program, the first and second semesters, students complete to a great extent the university and faculty required courses, with introductory courses in traditional drawing and painting, each semester in the first level consists of 16 credit hours.

In the second level of the program students further train in traditional drawing and painting beside other secondary specialization credits in courses such as: Fast Sketching, Principles of Design, Color Theory in addition to essential courses for core creative specialization practice such as Operating System Fundamentals. The second level consists of 16 credit hours in the first semester and 17 credit hours in the second semester, with about 42% of the total hours of the level allocated to specialization courses.

After the second level students with a 3.0 GPA or higher are eligible to take a summer semester consisting of 8 credit hours.

In the third level of the program, first and second semesters, students begin core digital specialization practice with courses in Digital Drawing and Painting, along with new media specialized courses like interactive art. They also take several other credits in courses such as: Art history and Anatomy for Artists in addition to an elective course of their choice. The third level consists of 18 credit hours in the first semester and 17 credit hours in the second semester. with about 57% of the total hours of the level allocated to specialization courses.

After the third level students with a 3.0 GPA or higher are eligible to take another summer semester consisting of 8 credit hours, which could help them earn the degree in four years instead of five years.

At the fourth level, first and second semesters, students continue their core specialization studies and training, they also earn credits in courses such as: *Museum & Exhibition Curating*, *Digital Painting History*, as well as two *Elective Courses* of their choice. The fourth level consists of 16 credit hours in the first semester and 15 credit hours in the second semester. with about 80% of the total hours of the level allocated to specialization courses.

At the fifth and final level, first and second semesters, students further train in core specialization studio courses while preparing their *Graduation Project Thesis Paper* in the first semester and their *Graduation Project* in the second semester, other credits are also allocated to courses such as *Art Criticism and Aesthetics* and an *Elective Course*. The fifth level consists of 15 credit hours in the first semester and 14 credit hours in the second semester. with about 72.5% of the total hours of the level allocated to specialization courses and the graduation thesis and project.

After passing 100 credit hours, students are required to complete **6-week training** in art related companies, factories, galleries, offices, or in one of the faculty or university departments. The academic advisor of the students could help them choose the right time for the training in the summer vacation, in accordance with the general rules of summer training at the university. Training should begin after the third level and is considered a graduation requirement.

12.6   CONCLUSION

Observer of the current university programs offered by finest arts colleges in the world, finds a large portion of their undergraduate programs reserved for *Digital and New Media art.* Awarded Degrees offered by such programs vary greatly reflecting the variety of the digital art we can see in the contemporary art scene. Undergraduate programs in Digital Painting, New Media Art, Interactive Art, Video Art, Web Art, Visual Art, Data Driven Art, and many more digital or new media specialized programs are now offered to students all around the world.

This variety in university programs also reflects the variety of art related jobs in the market. Today there are many creative and artistic jobs relating to the use of the digital medium, Graphic Design, Illustration, User Interface Design in various application programs, Game Design, Web Design, Digital Animation, Art Direction for Publications, Special Effects in Cinema or Television and many other jobs that are now available only for digital artists.

Undoubtedly, classical traditional forms of artistic creation are essential for all artists especially painters. They represent the foundation needed for students or professional artists to build upon their experiences and future careers; weather as a professional artist, or in any other artistic career now open in the market. But it is also essential that we do not neglect the current undisputed role of digital media both in the art scene and the job market. And for our distinguished Fine Arts Faculties to catch up and even take lead, they must work on developing their current programs' curriculums to include more digital media courses, as well as establishing new digital media undergraduate programs.

13. RESULTS
- Considering the tremendous contemporary developments in digital technologies, the world's art scene is currently full of many new digital media artworks, whose presence on the scene has become self-evident, and even inevitable.
- Many Fine Arts colleges undergraduate programs around the world now offer specialized studies in Digital Painting and New Media to their students, which better qualifies them artistically and professionally.
- It is greatly essential to establish in the Departments of Painting in the Faculties of Fine Arts in Egypt a new program for Digital Painting and New Media to better qualify graduated to

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participate and excel in the contemporary art scene, as well as prepare them for the demands of the job market, increasingly moving towards use of the digital medium.

14. RECOMMENDATION

The researchers recommend the establishment and activation of digital arts programs in general, and Digital Painting and New Media proposed Program herein in particular, within the Faculty of Fine Arts in Egypt, highlighting the great importance of the support of all stakeholders for such serious and important step towards improvement and development of Fine Arts Programs in Egypt, which comes in accordance with the current trend towards Digital transformation.

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