

# Virtual Film Stages Regarding Computational Intelligence as Communication Medium & the Application Analysis on the Sample from Turkey

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**Abstract—** Film Stages are places indicating technological and aesthetical meanings by sustainable solutions with an artistic reflection. These processes are all multidisciplinary works in sequence with multidimensional appliance prosperity. One of the most important criteria in film stage is the virtual and real affection in harmony with each other. The virtual meaning underlies the multidimensional aspect of space while the real indicates the interior organization with set decoration and donations in relation with the auditorium stage and the architectural data. This structures supported by computational intelligence is one of the basis of the creation of communication process as performance activity. In this work the appliance of computational intelligence in stages of film scenes and the analysis of an example from Turkey, the stages of the film containing virtual features, 'Gora' is being evaluated.

**Index Terms—** Virtual film stage, computational intelligence, communication, multidimensional application.

## I INTRODUCTION

Film is a term that encompasses motion pictures as individual projects, as well as the field in general. The origin of the name comes from the fact that photographic film historically been the primary medium for recording and displaying motion pictures. Many other terms exist for an individual motion picture, including *picture*, *picture show*, *photoplay*, *flick*, and most commonly, *movie*. Additional terms for the field in general include *the big screen*, *the silver screen*, *the cinema*, and *the movies* [13].

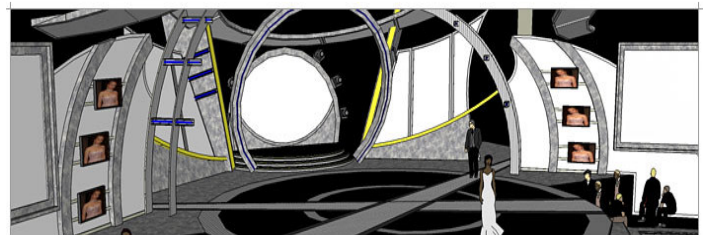
Film is considered by many to be an important art form; films are considered to entertain, educate, enlighten and inspire audiences. The visual elements of cinema need no translation, giving the motion picture a universal power of communication. Any film can become a worldwide attraction, especially with the addition of dubbing or subtitles that translate the dialogue. Films are also artifacts created by specific cultures, which reflect those cultures, and, in turn, affect them [13].

The next major step in the development of cinema could be identifies as the introduction of color. While the addition of sound quickly eclipsed silent film and theater musicians, color was adopted more gradually. As color processes improved and

became as affordable as black-and-white film, more and more movies were filmed in color after the end of World War II, as the industry came to view color an essential to attracting audiences in its competition with television, which remained a black-and-white medium until the mid-1960s. By the end of the 1960s, color had become the norm for film makers [13]. Since the decline of the studio system in the 1960s, the changes in the production and style of film are being identified. New Hollywood, French New Wave and the rise of film school educated, independent filmmakers were all part of the changes the medium experienced in the latter half of the 20th Century. Digital technology has been the driving force in change throughout the 1990s and into the 21st Century.

## II COMPUTATIONAL INTELLIGENCE IN FILM STAGES

In considering the future of theatrical motion pictures, especially as it relates to what we in the early part of the 21st century are thinking of increasingly as Digital Cinema, it is important to note that this transition has been under-way for more than 20 years. The worldwide computer and telecommunications revolution, as in so many other industries, has also provided our industry with a pathway to the evolution of cinema, in both creation and distribution. Soon rapid advances in digital compression image quality, along with computer processing and storage, helped to create a market for some evolved edit tools such as digital versions of the Montage and Ediflex.



**Figure 1** One of the concepts of a film stage by virtual means [10].

The nature of the film determines the size and type of crew required during filmmaking. Some films need computer generated imagery (CGI), created by 3D modelers, animators, rotoscopers and compositors.

Filmmaking takes place all over the world using different technologies, styles of acting and genre, and is produced in a

variety of contexts like; development, pre-production, production, post-production, distribution. Because three dimensional viewing is a matter of time-consuming and often very expensive to produce, the majority of three dimensional viewing for TV and movies comes from professional three dimensional viewing studios. Several independent three dimensional viewing producers have gone on to enter the professional three dimensional viewing industries. Limited three dimensional viewing is a way of increasing production and decreasing costs of three dimensional viewing by using "short cuts" in the three dimensional viewing process. Although most three dimensional viewing studios are now using digital technologies in their productions, there is a specific style of three dimensional viewing that depends on film [13].

Improvements since the late 19th century include the mechanization of cameras allowing them to record at a consistent speed, the invention of more sophisticated film stocks and lenses, allowing directors to film in increasingly dim conditions, and the development of synchronized sound, allowing sound to be recorded at exactly the same speed as its corresponding action. The soundtrack can be recorded separately from shooting the film, but for live-action pictures many parts of the soundtrack are usually recorded simultaneously.

### III THE VIRTUAL AND THE REAL STAGES

The advent of digital technology is leading to widespread changes in moving image production [12]. These changes are reverberating through all aspects of moving images from distribution channels to user expectations. Though the timelines and extent of many of these changes are overly inflated, these changes are still likely to force a dramatic shift in the film preservation paradigm. Key shifts will cluster around 2 areas: the first a movement from saving finished works as a whole to an asset-management approach that deals both with component parts of works and with ancillary materials that relate to the work. The second: learning how to shift from a mode focused on preserving an original negative or print as a physical artifact to one instead focused on saving a digital work that has no tangible embodiment [12].

Digital technology and high speed networks are leading to sweeping changes throughout society, and moving image production and distribution are in no way immune to either the technological changes nor to the social expectations that these changes have induced. Small-budget independent productions are increasingly being shot and edited in digital form. It could be declared that there is clearly a technical revolution taking place. You can edit a film on a laptop, and there is the Internet, the streaming and downloading capabilities [12].

The stage is currently being set for a cinema of the future that may include digital cinematography, will most certainly utilize an increasingly digital post production process, and is destined to be distributed into what the industry is grappling to envision as the Digital Cinema. The challenge for many working in the industry today, especially for those who have been tapped to lay the technological groundwork for future cinema, is to ensure that an uncompromised, robust, and extensible technical pathway can be built. For film, when considered as technology, in its relative

simplicity and its 100-year endurance is unquestionably quite elegant. Visual effects (VFX ) are as much a part of the production process as postproduction.

Many types of visual effects involve directly photographing elements, such as miniatures, models, puppets, or actors, sometimes on blue or green painted stages, that could be combined with other in live action or computer-generated elements to complete a visual effect shot. Visual effects originated as photographic or optical solutions, hence optically. Over the past 10 years, however, visual effects have increasingly become computer generated, with 3-D animation and compositing technology virtually eliminating certain types of film based optically and visual effects. While film optical are still common today for dissolves, fades, and titles, the move to digital post production of entire films will some day make the film optical process a thing of the past.

Today, even films that are not primarily visual effects films take advantage of the new digital toolkit. Techniques such as crowd enhancement, where people are literally copied and pasted so that a couple of extras can be made to look like a cast of thousands, have become commonplace. So have virtual extensions on buildings or the painting out of signs, telephone poles, wires or other objects in films whose historical setting does not mean to be included what is seen by the camera and should not be seen by the audience. On the basis of these concepts of digital based space, he moves on the topic of algorithmic information theory, which gives a possibility to generate a self-organic form [16]. For him, the value of computer is to lead architects to research into new forms of computational models, which is genetic space. He said that the notion of genetic space extends beyond the physical limits through a projection into higher dimensions of hyperspace. Genetic Space by the concept of Karl S. Chu is an artificial life form of an artificial 'ecology'[16].

### IV THE ANALYSIS OF VIRTUAL & REAL MEANINGS OF THE STAGES FROM AN APPLIED WORK

When we have a look the general appliances that could be seen in different film stages we can see the affection of the computational Intelligence on Set Designing. An example is chosen from USA, The film 'Matrix' [9]. The stages of the film require both virtual and also real meanings as in harmony with each other.



**Picture 1** The concept of stage

In the picture 1 the concept pf the symbolist imaginary of the film is being created and developed under these aspects.



**Picture 2** The preparation of the set

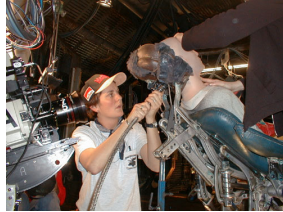


**Picture 3** The real set construction

In pictures 2 and 3 the set designing with many artifacts are under the essence of the harmony of virtual and the real [9].



**Picture 4** The team work related with set design



**Picture 5** The close shot in one of the scenes

In pictures 4 and 5 the staging with flexible systems are being adapted but with the concept of creating the stable systems.



**Picture 6** A futuristic composition of the construction of a set



**Picture 7** The interior of the set reflecting with the atmosphere of the virtual

The film is an important sample as it indicates the futuristic imaginary with today's conditions. The concept regarding application is a hard tam work as it also indicates philosophical ingredients with the artistic imaginary. These types of sets should be in a symbolic ability in order to

In pictures 7 and 8 the computational intelligence is the basic point as being a tool and medium for set design.



**Picture 8** The set construction is composed of some technical equipment that is having a multidimensional feature with variable images under the affect of multimedia reflection.

In picture 8 the created atmosphere is seen. The design of the set contains a full donated knowledge about the futuristic appliances so the designer is aware of technical systems and has the capacity of imaginary about the future with technical hardware.

#### V THE ANALYSIS OF THE SAMPLE FROM TURKEY AS STAGE DESIGNING

According to the application samples the sample chosen form Turkey is the film stages of the film 'Gora'. The film could be declared as the artificial intelligence in stage designing in artistic features. Below pictures express the different set designing with computational facilities.



**Picture 9** One of the decorations of the set with color effects. Color is one of the artifacts of set designing.

In these Pictures it could be analyzed that the staging realized is under some aspects.

These aspects are:

- The unusual and high-tech, creative design of the stages,
- The futuristic imaginary,
- The color synchronization with the concept of timing in the film and space,
- Reliable atmosphere with real decoration under the essence of virtual
- The archetypes of the period in the staging organization which are symbols and indicators of the film regarding the expression it aims,
- The indistinct time imaginary,
- The virtual atmosphere
- The indoor imaginary in the concept of staging,



**Picture 10** The aesthetical necessities and the technical necessities are the combination of the optimum standards of design criteria.

The optimum standards indicate the usage of the interior with less effort but more efficiency by using computational intelligence databases in good sequence with each other.



**Picture 11** The lighting with the decoration.



**Picture 12** Interior without time recognition.



**Picture 13** The organization of set designing with the lighting synchronization.



**Picture 14** The scenes of the film are virtual spaces by multimedia affection regarding aesthetical vision.



**Picture 15** The computational intelligence in set designing is active during the planning processes till the appliance work and the related period.

With the integration of computational facilities in design process it is identified that;

-the balance of the virtual and the real,

-the synchronization of artistic features with the futuristic images and technical hardware etc., are the basic criteria that could be reached.



**Picture 16** The computer facilities in designing are the balance of the real and the virtual by visible features.

The criteria mentioned above related with the features of the set designing are a technical progress with designing issue. The analysis showed us that arts and performance issues are also related with technological aspects like computational donations and the team work in progress under the accompanying of artificial intelligence.

The artificial intelligence and communicative archetypes are being combined in a work like stage designing in order to activate the aesthetic principles and contributing each other in order to compensate the necessities of a system in good sequence.

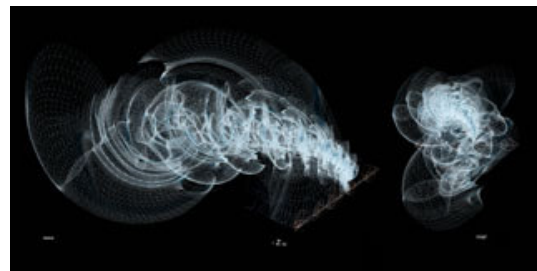
Architecture is meaningful in its physical form. However, with the emergence of cyberspace and developing technology of computer science, architecture with computation technology in cyberspace provides an opportunity for architects to explore and test out, and gives an idea before actual building are constructed. It allows the user to do walking through possible and provides a realistic view of what it would be like in real world [16]. Furthermore, the developments in artificial intelligence are making it possible to create machines that will learn, grow and evolve. It becomes possible to create a machine with the ability to assimilated and synthesise knowledge into patters of thought [16].

Artificial intelligence, or AI, is a field of computer science that attempts to simulate characteristics of human intelligence or senses. These include learning, reasoning, and adapting. This field studies the designs of intelligent agents, or a system that acts intelligibly. The term artificial intelligence is confusing and misleading however. Artificial intelligence is still a form of intelligence, but perhaps “synthetic intelligence” is a better name because it is not natural intelligence [15]. This is why the name “computational intelligence”, or CI, is sometimes preferred. Artificial intelligence is used in many objects that we use everyday: cars, microwaves, personal computers, and videogames. There are many different goals for AI, depending upon your field or view. Computer science attempts to make computer systems do what only humans could do in the

past. Computational philosophy tries to understand human intelligence at a computer level. AI also has applications in medical programs, factories, robots, and many other tasks. There are several different disciplines of artificial intelligence. They are: different are expert systems, natural languages, simulation of human sensory capabilities, robotics, and neural networks. These disciplines are all unique and are often implemented together to do more complex and advantageous tasks [15]. Traditional methods of search and optimisation are too slow in finding a solution in a very complex search space, even implemented in supercomputers. Genetic Algorithm is a robust search method requiring little information to search effectively in a large or poorly understood search space. *Phylum* is conceived as a prelude to a form of proto-architecture based on an algorithmic conception of the world. *X Phylum* is an attempt at developing an alternative approach to architectural design capable of engendering a new type of bio morphology.

The project reflects an emphasis which searches for morphological complexity whereby the construction and selection of rules that produce specific morphological effects is partially motivated by aesthetic and plastic sensibilities of the architect. The project therefore calls into question traditional methods of architectural design and proposes a design process in which the architect becomes an inventor or constructor of formal systems as well as takes on the role of a navigator of the system's behaviour over time.

The attempt is to allow a more natural interaction between the computer and user. Language is sometimes thought to be the foundation of intelligence in humans. Therefore, it is reasonable for intelligent systems to be able to understand language. Some of these systems are advanced enough to hold conversations. A system that emulates human senses uses human sensory simulation.



**Picture 17** *X-Phylum-Karl S. Chu's Genetic Space* is an example of the application of artificial intelligence in architectural design

These can include methods of sight, sound, and touch. A very common implementation of this intelligence is in voice recognition software. It listens to what the user says, interprets the sounds, and displays the information on the screen. These are very difficult systems to create though, as the human voice has many ranges and words are sometimes spoken differently. Another example of human sensory simulation is in video systems. These are still in their beginning stages and are very complex systems, as human vision is more complex than speech.

Fingerprint, retinal, and facial identification are instances that this is used [15].

## VI RESULTS AND CONCLUSIONS

In this work the results could be identified under two main titles. These main titles indicate the advantages and disadvantages of this case study.

The **advantages** of the integration of computational intelligence in film stages are:

- The possibility of creating fiction as real by virtual means,
- The creation of the lively atmosphere by related theme in accordance with technological means adapted to scene designing. Without the livable surrounding in the spatial dimensions, the stage is only a place without any energy and excite.
- The sustainable relation and dynamic integration of fiction and space.

The **disadvantages** are:

Sometimes the computational intelligence in set designing ends up causing to be the reason to disappoint the artistic feature as aesthetical reflection by the high-technological entire atmosphere. The aesthetical spatial necessities could need to be in a natural and realistic value. So it is important to regulate the balance with each other, the virtual and the real in harmony with each other.

As a **conclusion**,

It could be declared that film is a performance activity rather different than any other performance arts. The reliability of the atmosphere in a film is much more on forward than other activities. And the reliability of a film stage depends on the multidisciplinary team work connected with aesthetical and technical database. So the feature of the high-tech computational intelligence in spatial solutions is the success of great organization facilities in filming industry. The designers should be aware of the improvements in technological developments so as to achieve the optimal standards in filming by contemporary means.

Film stages are places characterized by physical identity of a symbolic expression by spatial meanings. The flexibility of the auditorium interior depends not only the flexibility of the set design decoration or seating capacity but also the variability of the stage by visual means as the changing durations of the color, lighting, the cyclorama, the effects concerning background etc. in conjunction with each other. It is identified that auditorium interiors are the places characterized by physical dimension; image and computational intelligence cumulated around the aim to maintain any type of performance or activity whether by virtual or real means. The success of the whole structure depends on the organization of the virtual reality supplied by the general feature of the computer generated fixtures.

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