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# ARCHITECTURAL ANIMATION

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## Introduction

There is no doubt that the animation is most impressive representation technique for the user. Due to practical usage of computer graphics, computer animation can be applied to almost every field from cinema art up to medical science. The animation which was an idea before advanced computer graphic technology for design visualization, becomes a design medium in parallel with usefulness of *digital graphics* applications. Considered with potential of architecture and the relationships of clients, *architectural animation* are different from other animation types that should be studied depending on artistic concept, the situation in the evolution of design-visualization and design process. This paper concentrates on the concept of architectural animation and its usefulness in mini and micro computer technology.

## Architectural Animation and Evolution of Design Visualization.

Architectural Presentation has become an independent professional field separated from architecture after Industrial Revolution. The art of architectural representation is interested in how an architectural artifact should be presented rather than what the architectural object is. Yet, architectural representation has a strong relationship with design visualization.

Contemporary, design visualization is beyond to the definition of theorists who were popular in 1960's such as A. Halse<sup>1</sup>. Recently developed computer graphics has changed the criteria of the representation and communication techniques. In my opinion, there is a number of evaluation in design visualization that cannot be explained in the historical development of art<sup>(2)</sup>.

(1) Özcan Oğuzhan (1990). Computer Application in Architectural Presentation, MSc dissertation, Strathclyde University/ABACUS, Glasgow.

(2) Özcan Oğuzhan (1991). "Mimannız var olmayan evinizi gezdirebiliyor mu?" ( Can your architect invite you to a small walk in your virtual house? ), *Cumhuriyet Bilim ve Teknik Dergisi*, Vol: 218, pp: 15-16

### **The importance of motion concept in design**

Design idea loses the originality which occurs in the mind when visualizing in conventional process. In contrast of general opinion, design thinking is a complex structure that designer has full of emotion as creating the building. Almost every language has some expressions describing determining this feeling such as "*yapının çiçeği böceği* -flowers and beetles of building".

Today's popular representation technique, animation may help to improve the role of emotion in designing and explore the liveliness which disappears on the paper. The combination of music and narration with animated vision supports how the designer feels in his/her creation.

### **The art of cinema and architecture**

The representation method of computer animation has been used in cinematography for a long time. The number of film director considered human action in the space besides a realistic analyses of environment such as F. Copolla. The difference between the cinematography and architectural animation is cinematography analyses the human activities in space but architectural animation individually concerns with space.

Then, should architectural animation have an artistic language? To answer this question, the factor of animation in architecture ought to be discussed.

In first instance, architectural animation is explanatory assistance for architecture and is a communication link between presenter (architect) and spectator (client or user). In this respect, it is a kind of clip to advertise the architectural artifact. Camera action should be focused to the building and human and other natural activities in secondary position should not be expressed. Because of this, architectural animation behaves as a sort of side seeing to perceive the space and to sell the idea easily. If the artistic factors are added into the clip, proposed orientation and impression may be changed and could become a spectacle film. Again, the essential aim is to perceive the space directly for architecture. Obviously representation becomes rich by impressive organizations. But visual effect based task cannot be identified as an architectural representation and the architectural space is a theme for those. Shortly, architectural animations are just between scientific visualization and cinematography. For design process, it is a media archive which provides visual information in just one environment.

### **Creating architectural animation and computer graphics**

There are some important technical differences between a usual animation and architectural animation. Architectural modelling which consists of geometry of building, human and environment are complicated and sophisticated compared with, for instance, an industrial

design. Architectural design needs a high capacity of computer graphics and mass storage and fastest processors. Even in the use of mini computer systems, some tricks are made to limit the allocation of high memory such as the use of 2-D human and three image in 3-D modelling. Hence Architectural task will always lack much better potential computer environment because of the endless variation in definition of nature and buildings together.

### Conveying the design in motion by micro computer opportunities

Micro computer application in architectural animation should have different characteristics than mini computers. It is agreed that architectural artifacts could be visualized in simplified structure that is ultimate result of microcomputer applications<sup>4</sup>. In opposition to the general notion of computer technology, it should also be accepted that micro computers cannot create a result what mini computer provides the same as how the pencil cannot give the impression what brushes can do. What most important concept is the realistic image that becomes popular by computer tools is not always essential factor for architectural representation. Architectural visualization is generated in various styles from realism to surrealism by different requirements from subject to subject and spectator to spectator. In this case, minimization may be the most convenient style for micro computer application.

### Conclusion:

To make architectural animation effective, Micro computer applications could be used in three different way for design visualization:

1. In lieu of high end animation, massive forms which are usually visualized in the first designing stage could be analyzed by animated image. By this more perceptual experimentation, design could be developed satisfactorily. The researches are investigated that either separately or not, observation of movement of target, viewer and light source positively causes design thinking and gains a new dimension to the concept.
2. As providing the continuity of animation on the screen by 360 degree circled camera movement which starts and ends at the same coordinate numerics, 4-D Animated Archives could be held. Therefore, a total interpretation can be released what orthographic document cannot handle<sup>5</sup>.
3. Animated design idea cannot be kept in the mind after watching because of giving intense and large amount of information<sup>6</sup>. To improve this obstacle, some advertising rule can be adapted to the presentation such as repeating and rhythm<sup>7</sup>. The methods maybe ameliorate the artistic point of animation.

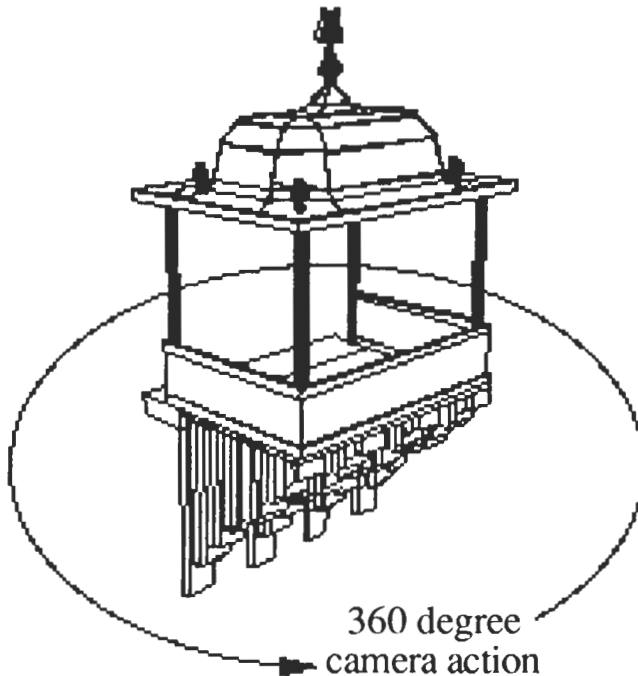
(4) Computer Graphics and Architectural Design (1991). Computer Graphics, Vol:25, no:3, pp.174-177.

(5) Özcan Oğuzhan (1991). Topkapı Sarayını Görselleştirmek ( Visualizing the Topkapı Palace), Cumhuriyet Bilim ve Teknik Dergisi, Sayı 243, sayfa: 12

(6) Mark Earl (1990). "Case Studies in Moviemaking and Computer-Aided Design". In McCullough, M., W.J.Mitchell and P.Purcell (eds.). *The Electronic Design Studio, Architectural Knowledge and Media in Computer Age*.Cambridge, Mass. MIT, pp.394-411

(7) Dyer Gillian (1982). Advertising as Communication, UK, The Chauces Press, p.162

In spite of significant advances in architectural animation, visualizing the feelings factor of design is not convincing yet. Designer has not qualified for the use of animation in their works and should be educated to understand the animation as a medium. As long as the technique becomes popular and commonly used, animation will certainly activate artistic concept in architecture more than before.



**FIGURE 2:** A 4-D Animated Object, The İftariye Kiosk From The Topkapı Palace Project