Use of 3D Animation Software in Visualizing Architectural Works

W Hadiyatna¹, Andi Harapan S²*
¹²Departemen Teknik Arsitektur, Universitas Komputer Indonesia, Indonesia

Email: *andiharapan@yahoo.com

Abstract. The architect is needed something to explain their product result from each stage of the design process. The tool is something that is used by the architect in explaining their product result with a 3D presentation. The purpose of this study is to describe how influencing and important of 3D Presentation (such as the animation) with the architectural works for architects. The software that was used for the visualization is the lumion, which is often used by professional architects. The method of this research used the interview and questionnaires with some architects. Based on the result, the animation can make easier for the architect to explain and elaborate their concepts to the others as well as their Client. The lumion software is the easier one to apply for the architect to present their design.

1. Introduction
In the era of globalization, the development of Information Technology (IT) is growing rapidly. According to Soegoto, Information Technology helps companies to develop and experience rapid growth from year to year. Corporate managers have been chosen with using Information Technology to interact efficiently, because of its simplicity in the ongoing business process. Some of the advantages of IT for Business; it makes entrepreneurs closer to consumers, reduces costs, and more flexible [1].

The depiction or visualization of an architectural work is now increasingly developed, especially in the era of computerization. In the past, a designers or architects visualized their work through drawings or sketches, but along with the times the designers used computers to visualize architectural masterpieces using software to process a 2d or 3d data into an impressive image. Now, a designer or architect uses a computer to process the data from their design into a three-dimensional animation. Video as one of the means designed to produce realistic images, we tend to forget that the fundamental attribute of the video is the ability to manipulate the perspective of space and time [2]. The animation is a film that is the result of processing a hand image into a moving image, while graphic design is a form of visual communication that uses images to convey information or messages as effectively as possible. The development of multimedia, especially animation and graphic design in Indonesia today has been quite promising. In addition to entertainment, the use of animated films and graphic design works are also used by various
companies in the promotion of their products. Thus, the existence of animation and graphic design in the fields of commerce, communication, education, and information has had a considerable influence [3].

The aims of this study to determine the influence of animation to improve the marketability of the property market with building designs in architecture. This paper used the descriptive method and the data from some literature and journal about this topic.

2. Method
The method used in this research was descriptive to describe the process of visualizing an architectural design into animation and using interview methods that is conducted to 5 people and 2 designers about the ease of visualizing architectural works through animation as well as the ease of using lumion software.

3. Results and Discussion
Architecture must ultimately communicate with users and participate in dialogue with urban in general, the spatial narrative is an attempt to effectively communicate the perception mediated by architecture. The animation is a means to make inanimate objects come alive. The tradition of animation has been embedded in the magical realm of cinema, where cinema's photographic property has given its power to mimic a reality that could not be done by other arts [4].

Making animation can be done on SketchUp but the results along with the sophistication of technology rendering SketchUp results can be considered less tangible. Many people do not go beyond the basics and believe that some sophisticated modeling or good quality photo-rendering needs to be done using other software [5]. One such method is with Lumion, which is devoted to the consideration of this publication. The developer's unusual approach to the program allows him to compete with the leading rendering systems used in the architecture field. [6] (Figure 1).

- Plan

    ![Figure 1. Plan](image)

    Forming 3d modeling is required to make a floor plan first. Plans are made using AutoCAD which is software that is often used by students and professional designers. Plans for 3d modeling are not too detailed, just look at the basic shape of the building. (See Figure 2).
3D modeling

To make modeling, it can use SketchUp because it is the easiest to use and can be translated into Lumion. The practicality of making modeling using this software can accelerate the work of a company. (See Figure 3).

Lumion

Lumion is a software to process the 3D model to look like the original. There are many features in it such as the addition of trees, humans, exterior interior furniture, and the surrounding environment. In the lumion we can also adjust the weather according to the expression of what we want. (See Figure 4).
Figure 4. Lumion modeling

Lumion is one of the software variants to render/visualize the model into real in the form of JPEG images or moving images commonly called animation. Many rendering software variants such as vray, artlantis, keyshoot, ntrender, irender, and others. Lumion is chosen because it is easy to operate and has better rendering results than other similar programs [7-10]. (See Figure 5).

- Rendering

Figure 5. Video making

In this research, the processing is focused on animation. Here is determined the camera angle be taken, which part of the building will be displayed, and how long the duration of each scene. And if everything has been determined then the next is the rendering process. (See Figure 6).
Figure 6. Rendering

The rendering is the process of processing a model into a real image. This process is the heaviest because it depends on the specifications of the computer used. The more sophisticated the computer, the faster the process. The rendering process takes a long time, sometimes it can reach for days depending on how complex the model will be rendered. (See Figure 7).

- Animation

Figure 7. Animation

The final result is a 3D animation in the form of a video in which there is a scene that displays the entire building. Animation makes it easy for people to understand the shape and feel of a building's space easily without having to go directly to the building. Architectural animation is one of the easiest ways to
present the concept of a designer to people who see it. Marketing a house becomes easy if presented via video.

4. Conclusion
The particular architectural environment that is important from culture and history will provide some of the most interesting virtual destinations in the future. The animation is one of the results with the live object for visualization. Thus, the animation is a form of visualization that is very easy to understand and to express an idea or concept.

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