Effectiveness of using visual reality Software in lighting design for TV Shows and to which extent the virtual reality matches the implemented show

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Abstract:

The thesis examines the effectiveness of augmented reality programs and visualization programs designed to assist in lighting design, the extent to which they are used, and the extent of their impact on artistic creativity in lighting design.

The research discussed the steps of implementing and designing lighting for the technical show, lighting standards and rules, how to deal with the idea of the presentation and working on it, reading the scenario, and creating a timetable for the implementation of the design before the presentation with sufficient time and developing a plan for the implementation of lighting and the types of lighting that can be divided into the used light units and how to install and suspend them and then adjust their places and adjust Its directions, adjusting clarity, how to integrate it into the recursive line of the artistic presentation, the importance of the experimental presentations for the technical presentation, and writing notes to modify the design according to the variables, and how to reach the best design.

The thesis presented some applications of programs dedicated to lighting design in virtual reality, such as ESP-VISION, WYSIWYG, ETC AUGMENT3D and MA3D, and the thesis presented some applications that can use screens with multi-touch feature.

Then the researcher implemented an application show for a competition program for Nabati poetry, and different Camera shots were shown between virtual reality and real reality.

Introduction:

Technology has advanced in the field of lighting in artistic performances such as concerts, theaters, the opening of large sporting or artistic events, or even a wedding celebration or a gala dinner party. The technology used to assist the artistic presentation is what is clearly visible and enables these high-end artistic presentations to be distinguished. In order to ensure good lighting performance, designers resorted to using light simulation programs to design, program, and

designate lighting locations before implementing the artistic presentation. Modern software and applications consist of detailed interfaces with complex tools and automated processing engines to provide a visual representation in advance of what the artistic lighting show will be, avoiding production costs and pre-event stress. However, these applications tend to be very sophisticated and complex, requiring significant study, science, effort, and knowledge of the best compatibility.

o Research problem:

Lighting has various problems, including highlighting reflections and light effects, showing the texture of the depicted objects, and highlighting color diversity, and the lighting designer controls it through the design of the lighting. There are many programs for lighting design, each of which has its advantages and disadvantages and the extent of its effectiveness with the depicted subject, despite the progress achieved on the visualization side. For programs, but do they really provide a true, reliable visualization and knowledge of what the artistic presentation will actually be like? Or are they programs that have nothing to do with what the artistic presentation will be like? Or is the understanding of the produced image limited to the designer himself and no one else can decipher it except its maker?

What is the usefulness of visualization or augmented reality programs, how important are they, and do they have an impact on the productive artistic presentation?

In this thesis, we will face this challenge, explore its aspects, study its factors and programs, then implement a design with lighting and an interface, augmented reality, or a simulated visualization of what the artistic presentation will look like.

o Research objective:

Access to the most appropriate computer programs and applications for implementing a virtual effect that resembles the real reality, which is used to illuminate artistic performances, suits the lighting designer, and is compatible with his equipment.

o Research methodology:

The descriptive approach to augmented reality programs for lighting to highlight the texture, different light reflections, and color effects, in addition to the experimental approach, so that experiments are conducted for programs specialized in displaying lighting in artistic performances.

o Research hypotheses and questions:

• Is any graphic program suitable for a lighting designer?

• Can architectural engineering drawing programs perform this task, or do they have shortcomings, and what is the alternative?

• Are there really specialized augmented reality programs dedicated to lighting design?

• Are these programs free or expensive? If they are expensive, what is the extent of benefit from them compared to their prices?

• If the advantages and disadvantages of each program specialized in lighting design are identified, this will lead to the appropriate use of each program to suit the artistic presentation

• If a specialized program for lighting design is selected, this will lead to good and correct use of the program, whether for the theater, studio, or photography in outdoor open spaces.

• Studying specialized programs and their techniques will lead to the production of artistic performances at a more professional and creative level

• What are the basics of lighting design that must be taken into account when using the programs?

Research Results: -

1- Using virtual reality helps to better imagine what the artistic presentation will look like

2- There is a great convergence between the virtual reality image and the real reality

3- These programs require correct entry of the location of each optical unit with height, length, and width parameters on the main axes X, Y, and Z.

4- The problem of embodying the characters and their clothes, as well as the decorative pieces, arose, and this requires effort from the interior designer and cooperation to provide the lighting designer with all the data and drawings for each decorative model.

5- The height and angle of each device may change during the actual implementation and installation of the optical units, which leads to a change in the directions of the distance of the sources or their failure to produce the desired effect.

6- The lighting director and the designer, whether they are the same person or different, still need adjustments and improvements after verification. It is not possible to completely rely on the results of augmented reality alone due to the subtle errors during installation and the difference in distances depending on the obstacles of the installation and the narrowness of the actual spaces.

7- There must be agreement and discussion with the sound engineer and the loudspeakers, as they are also an essential factor in the artistic work and may obstruct the light paths or the installation of truss columns and light stands.

Research Recommendations:-

1- The necessity of developing curricula for studying augmented reality using programs dedicated to lighting in school curricula because it is the future

2- Encouraging graduates in the field of work in state theatres

3- Lighting designers should be interested in augmented reality programs intended for the purposes of lighting design for artistic performances, because they have a great impact in extrapolating what the artistic presentation will be like.

4- The necessity of building strong working relationships with the interior designer and cooperating together to produce a distinctive artistic image

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