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Interior Design of St Peters Medical College Hospital Building, Hosur, Tamilnadu using Revit17

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Abstract: ***Interior design is the art and science of enhancing the interior of a building to achieve a healthier and more aesthetically pleasing environment for the people using the space. In this modern era most of the houses, office buildings, commercial buildings and all others are integrated with interior design and it became the part of building construction. This paper deals with the design of interiors for a four storey multispecialty hospital building. These interior designs consist of providing all the requirements which are helps in enhancing the building and to make it aesthetically pleasing. This includes development of walls, columns, beams, roof and floors and other structural elements and these works are done in revit17 software and the insight of creating and developing is done by building information modeling (BIM). The interiors such as lightings, chairs, beds, lifts, doors, windows, curtain walls, ramps, desk and other components are placed at their positions. The realistic 3D effect with high quality is obtained by rendering the images. The camera view of the building is taken and the rendering is done and the walkthrough video of the building is prepared. This paper shows that the development of technology in civil engineering field and their advantages in the construction field. That the whole view of any type of a building can be seen and they can be analysed before its construction using advanced techniques.***
Keywords: Interior design, BIM, Rendering, walkthrough video

I. INTRODUCTION

Autodesk Revit Architecture is a robust architectural design and documentation software application created by Autodesk for architects and building professionals. The tools and features that make up Revit Architecture are specifically designed to support building information modeling (BIM) workflows. By utilizing BIM as opposed to computer-aided drafting (CAD), Revit Architecture is able to leverage dynamic information in intelligent models — allowing complex building structures to be accurately designed and documented in a short amount of time. Each intelligent model created with Revit Architecture represents an entire project and is stored in a single database file. This allows changes made in one part of the model to be automatically propagated to other parts of the model, thus enhancing the workflow for Revit Architecture users.

The BIM workflow offered by Revit Architecture not only maximizes productivity but also helps to streamline your design and documentation workflows; speeding projects from design to completion while automating updates across your model with a single design change. Autodesk Revit Architecture offers many other tools and features that can enhance productivity such as Physical Materials for Building Performance Analysis, Autodesk 360 Integration, Work sharing, Construction Modeling, Bidirectional Associatively, Parametric Components, and much more.

Autodesk Revit Architecture is used by architects and other building professionals to help reduce risk obtain insight into how buildings will perform before construction begins, develop better quality designs, and improve project delivery. For example, a school of architecture may use Revit Architecture as the software of choice to help its 600 full-time students gain real-world experience using a BIM workflow to build high-impact 3D models. In the case of an engineering and architectural services firm, Revit Architecture may be used to fast-track the complex design and construction of a building that wraps around distillery processing equipment and allow for a high level of future maintenance and improvements.

Interior design is the art and science of enhancing the interior of a building to achieve a healthier and more aesthetically pleasing environment for the people using the space. An interior designer is someone who plans, researches, coordinates, and manages such projects. Interior design is a multifaceted profession that includes conceptual development, space planning, site inspections, programming, and research, communicating with the stakeholders of a project, construction management, and execution of the design.

In the past, interiors were put together instinctively as a part of the process of building. The profession of interior design has been a consequence of the development of society and the complex architecture that has resulted from the development of industrial processes. The pursuit of effective use of space, user well-being and functional design has contributed to the development of the

contemporary interior design profession. The profession of interior design is separate and distinct from the role of *interior decorator*, a term commonly used in the US. The term is less common in the UK where the profession of interior design is still unregulated and therefore, strictly speaking, not yet officially a profession.

Residential design is the design of the interior of private residences. As this type design is very specific for individual situations, the needs and wants of the individual are paramount in this area of interior design. The interior designer may work on the project from the initial planning stage or may work on the remodeling of an existing structure. It is often a very involved process that takes months to fine-tune and create a space with the vision of the client.

II. INTERIOR DESIGN

The interior design of the building includes design of walls, doors, windows, floor, roof, ceiling, glazing's, light fixtures, escalator, case works and entourages.

Interior design is done to enhance the aesthetic of the structure and to make it appealing. In this developed state of technologies are grown to drastic range, with the help of technologies many impossible thinks can be make into a possible thing. In revit architecture the whole view of a structure cane seen as a 3D model and this helps in development of construction field. First and foremost, interior design is important due to the aesthetic value it posses in a given space. . The simple fact is that having a house that looks nicer is going to make you like it better and that makes design important. Interior design increases the value of a house/project.

A. Interior design enables an owner to make the most of spaces

B. Learning interior design gives us a better scope of fabrics materials colour furniture and lighting that will have desired effect on the person occupying the premises.

C. The interior of space affects the quality of life that the people live in such a way that they interact with this environment on a daily basis, and if something does not work for you, its more likely to frustrate more than make you happy.

III.INTERIOR COMPONENTS

A. Development of walls

The hospital building plan id drafted in AutoCAD and the drafted plan is imported the revit software. Then the walls are developed on the workspace according to the dimension of the plan and the required openings for the doors, windows and ventilators are provided.

B. Doors windows and curtain walls

The doors windows and ventilators are provided according to the plan and the curtain walls are provided over the cvortyard.

C. Roof and floors

Ceiling is provided to the required height and the roofs are provided to whole area of the building. In the same way flooring is provided to required thic kness and the floor finishes are given.

D. Furniture and electrical fixtures

Furniture and electrical fixtures are the main part of the interior design. This part will enhance the look of the building and it will play a major role in interior design. The furniture such as rolling chairs, tables, beds, water closets, conference table, lifts are provided.

The electrical fixtures such as ceiling lights, lamps, wall lights and other fixtures are given to the whole building to improve its aesthetic view.

IV.RENDERING

When a user makes a building, model, or any other kind of object in Revit, they may use Revit rendering engine to make a more realistic image of what is otherwise a very diagrammatic model. This is accomplished by either using the premade model, wall, floor, etc., tools, or making her or his own models, walls, materials, etc. Revit 2010 comes with a plethora of predefined materials, each of which can be modified to the user's desires. The user can also begin with a "Generic" material. With this, the user can set the rotation, size, brightness, and intensity of textures, gloss maps (also known as shinemaps), transparency maps, reflection maps,

oblique reflection maps, hole maps, and bump maps, as well as leaving the map part out and just using the sliders for any one (or all or none) of the aforementioned features of textures.

When all the components are fixed into the structure to make it in a realistic view rendering procedures are done. A particular part of the building is taken in camera view and that image is rendered to become high quality.

Fig. 1 elevation of the hospital building

Fig. 2 image of reception of hospital

Fig. 3 image Dean room

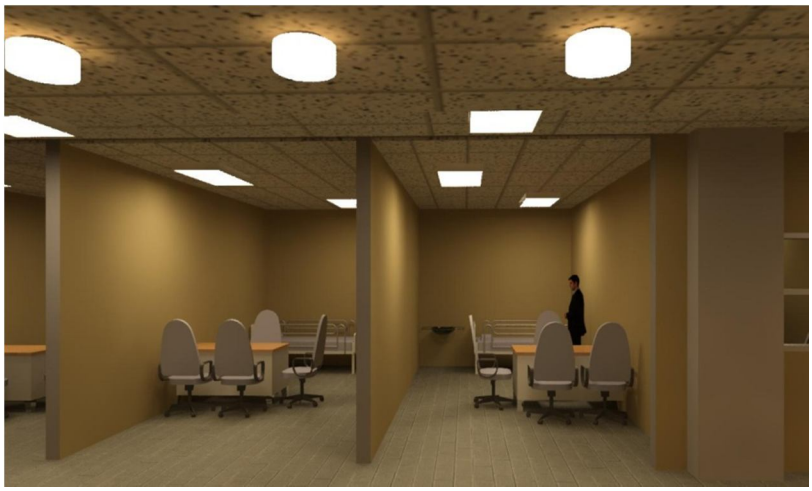

Fig. 4 image of consultation rooms

Fig. 5 image of general ward

V. WALKTHROUGH

In the revit architecture when the interiors of the structure is finished the final walkthrough can be developed. Walkthrough video shows the whole integrated part of the building. This video shows the every part of the interiors according to their path. The path of the video and the running speed is decided by the user.

Walkthrough is a camera that follows a path that you define. The path comprises frames and key frames. A key frame is a modifiable frame where you can change the direction and positions of the camera.

VI. ADVANTAGES

A. Using revit architecture the realistic view of the structure can get before the construction of building.
B. Reduced field cycle time
C. Greater error deduction and risk mitigation
D. Development in creativity.
E. Appropriate use of technology

VII. CONCLUSIONS

Our project shows the development of technology in the field of civil engineering and to make a interior design foe a hospital building. And it also deals with the usage of revit architecture in designing. We developed the rendered image of the various parts of the St Peters medical college hospital building which includes various interior components. And the 3D realistic view of the building is developed before its construction.

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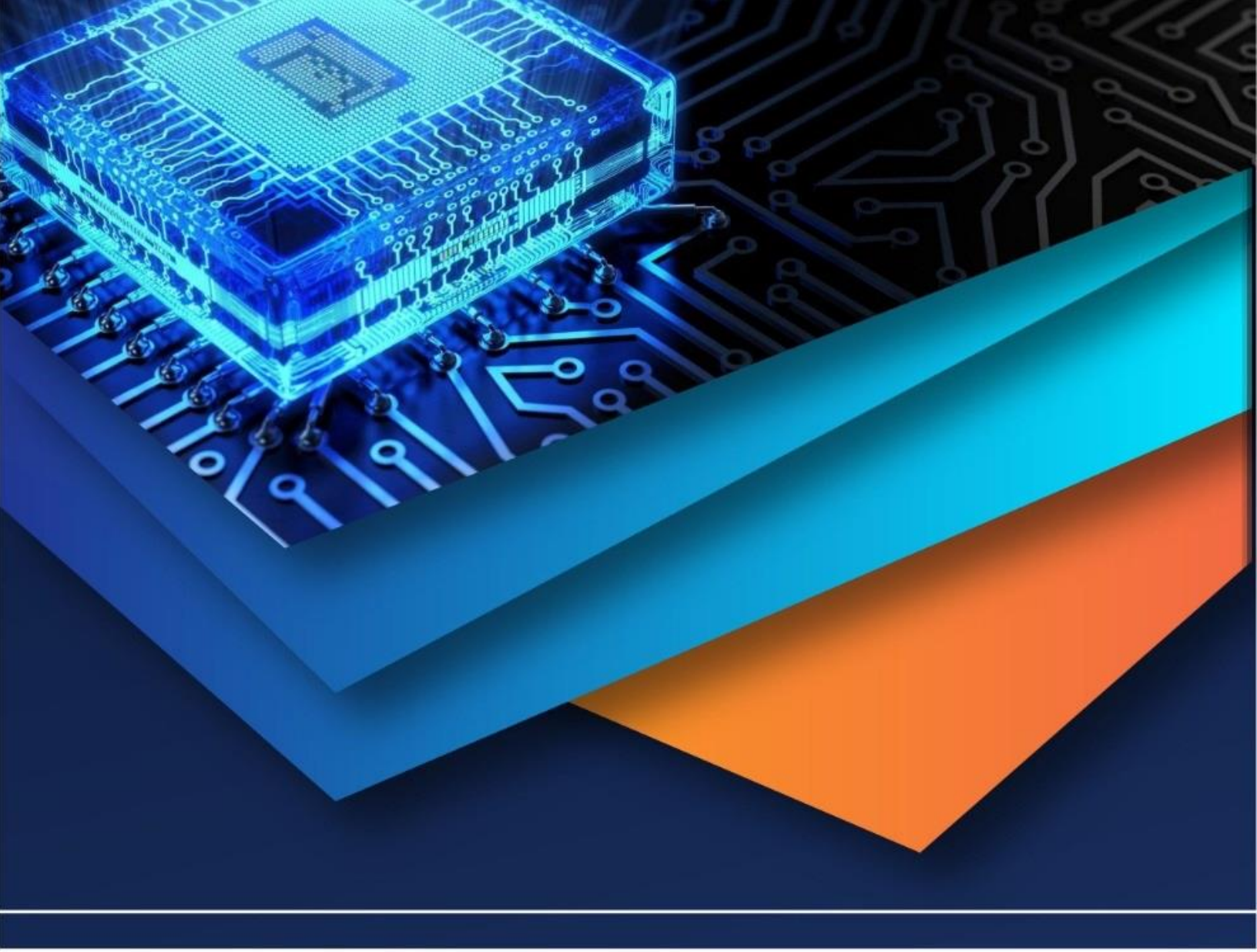

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