

Digital Visualization Techniques

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1. Introduction

- **Digital visualisation:** using computer tools to represent architectural designs as images, animations or interactive models.
- It communicates spatial, material and lighting qualities to clients and teams.

2. Key Techniques

- **3D modelling:** building geometry digitally in software such as SketchUp, Rhino or Revit.
- **Rendering:** simulating light, materials and shadows to produce realistic images.
- **Animation and walkthroughs:** moving views that convey experience through a space.

3. Advanced Methods

- **Virtual reality (VR):** immersive exploration of designs at full scale.
- **Augmented reality (AR):** overlaying digital models onto real environments.
- **Real-time rendering:** engines like Unreal and Twinmotion update views instantly.

4. Purpose and Benefits

- Improves design communication and stakeholder understanding.
- Supports design testing, iteration and decision-making before construction.
- Strengthens marketing, presentations and competition entries.

5. Considerations

- Photorealism must be balanced against clarity and honest representation.
- High-quality visualisation demands computing power, skill and time.
- Effective images depend on composition, lighting and material accuracy.