2.2) OBJECT VISUAL APPEARANCE:

Object visual appearance refers to the way an object looks in a virtual or computer-generated environment. Achieving realistic and visually appealing appearances involves considerations such as surface properties, material characteristics, lighting conditions, and rendering techniques. Several factors contribute to the visual appearance of objects:

1. SURFACE MATERIAL:

- The material properties of an object, such as color, reflectance, and transparency, significantly impact its visual appearance.

2. TEXTURE MAPPING:

- Applying textures to object surfaces enhances realism by adding details like patterns, images, or surface irregularities.

3. SHADING AND LIGHTING:

- Proper shading and lighting techniques contribute to the perception of depth, highlights, and shadows, affecting the overall visual quality.

4. REFLECTION AND REFRACTION:

- Realistic rendering includes the simulation of reflections and refractions, especially for materials like glass or water.

5. BUMP MAPPING:

- Bump mapping adds the illusion of surface irregularities without modifying the actual geometry, enhancing the appearance of object details.

6. GLOBAL ILLUMINATION:

- Techniques like ray tracing and radiosity contribute to global illumination effects, providing realistic lighting interactions.

7. POST-PROCESSING EFFECTS:

- Post-processing effects, such as depth of field, motion blur, and bloom, contribute to the final visual quality of the scene.

8. REAL-TIME RENDERING TECHNIQUES:

- In real-time applications, techniques like Physically Based Rendering

(PBR) aim to simulate real-world lighting and materials for enhanced visual fidelity.