

Practical WorkN°01

Modeling a 3D Scene from a Video

Objective : Using a provided video, students will model a 3D scene using OpenGL, integrating keyboard input to interact with the modeled scene.

Instructions: OpenGL, incorporating keyboard input to interact with the modeled scene

1. **Video Analysis:**

- Carefully examine the provided video to identify the objects present, their position in space, their colors, and their interactions.
- Create a list of the scene elements to be modeled (objects, structures, environment).

2. **Scene Modeling:**

- Use OpenGL to create the scene objects in 3D.
- Each object must respect the proportions and placements observed in the video.

3. **Keyboard Interaction Management:**

- Implement keyboard controls to allow scene modification:
 - Moving objects.
 - Rotating objects in space.
 - Zooming in on different parts of the scene.
 - Changing colors based on specific key presses.

4. **Technical Constraints:**

- The scene must be interactive, fluid, and respond in real time to keyboard input.

5. **Deliverables:**

- A short video (2-3 minutes) demonstrating the functionality of the modeled scene and the possible interactions via the keyboard.

Evaluation:

- Quality of the 3D modeling (accuracy of the original scene, level of detail).
- Good keyboard input for manipulating the scene.
- Smoothness and responsiveness of the application.
- Originality and personal improvements (e.g., addition of extra features).