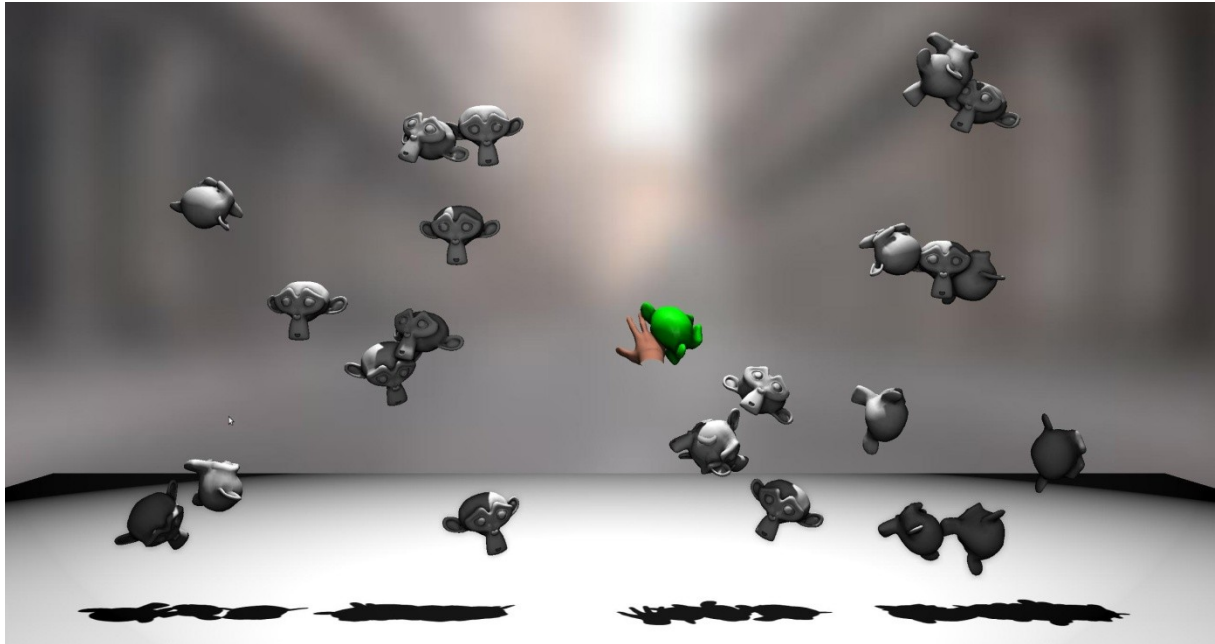


# Object Dragging in the Scenegraph



**Figure 1: Several target objects are placed randomly in the scene. A virtual hand can be used to drag objects to new positions. Objects in selection range are highlighted in green.**

For this assignment three different realizations of object dragging (see Figure 1) using the scenegraph shall be implemented. The class *ManipulationManager* provides the three functions *start\_dragging()*, *object\_dragging()*, and *stop\_dragging()*, that are executed at different stages of the dragging process. Include your specific implementations here.

## How to start?

- Review the dragging strategies presentation ( [object\\_dragging\\_strategies.pdf](#) )
- Copy the *04\_object\_dragging* folder from */opt/vr\_exercises/WS\_15\_16* to a local repository
- Execute the application by running *./start.sh* in a terminal
- Proceed with the assignments

## Assignment Tasks (no grading):

1. Implement dragging strategy 1 – re-configuration of node structure
2. Implement dragging strategy 2 – successive application of tool-object offset
3. Implement dragging strategy 3 – successive application of relative movement input