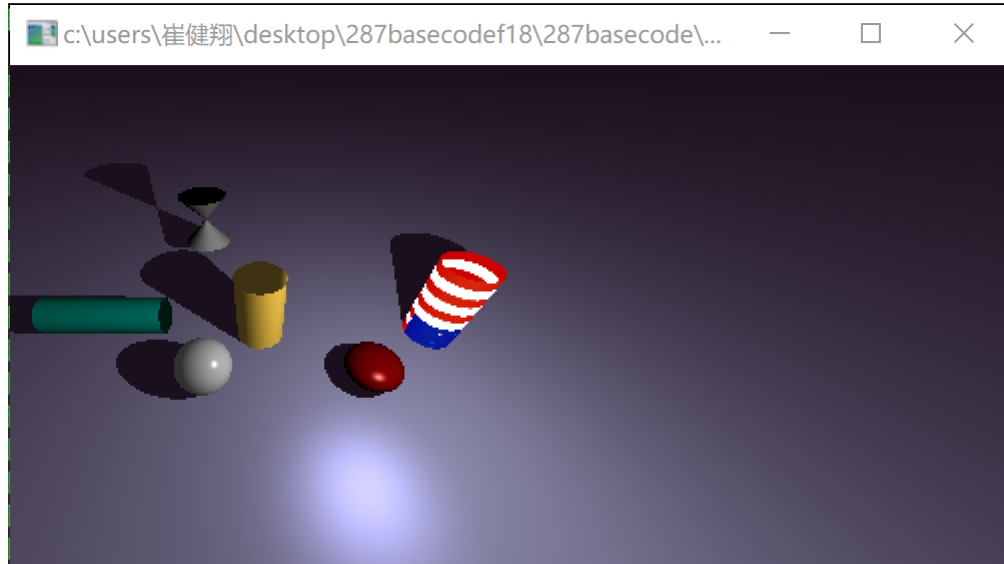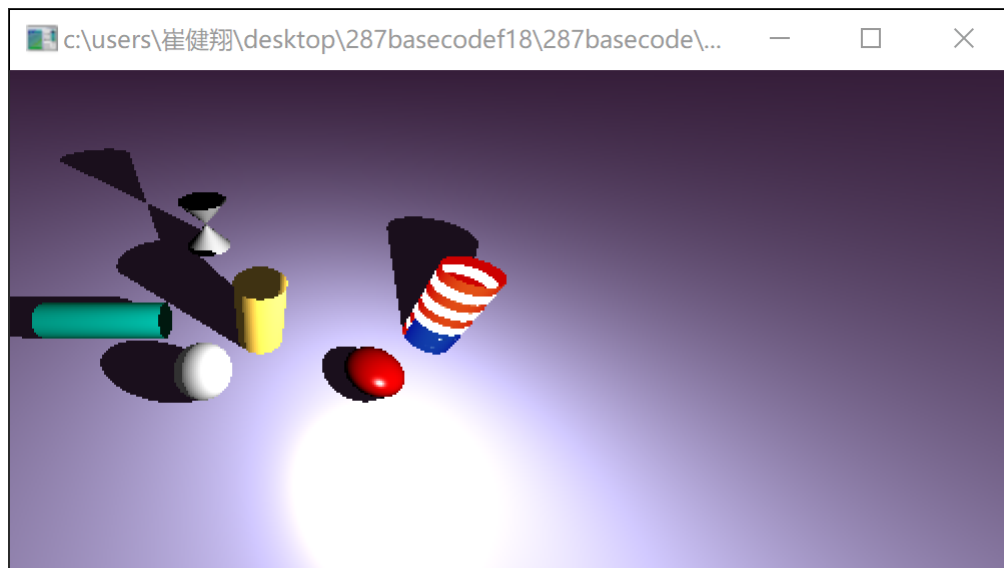# Raytracing Project Report

List of functionalities that works:

1. One positional light and the correct implementation of the equations to render the objects with a realistic appearance. Backfaces must be rendered.

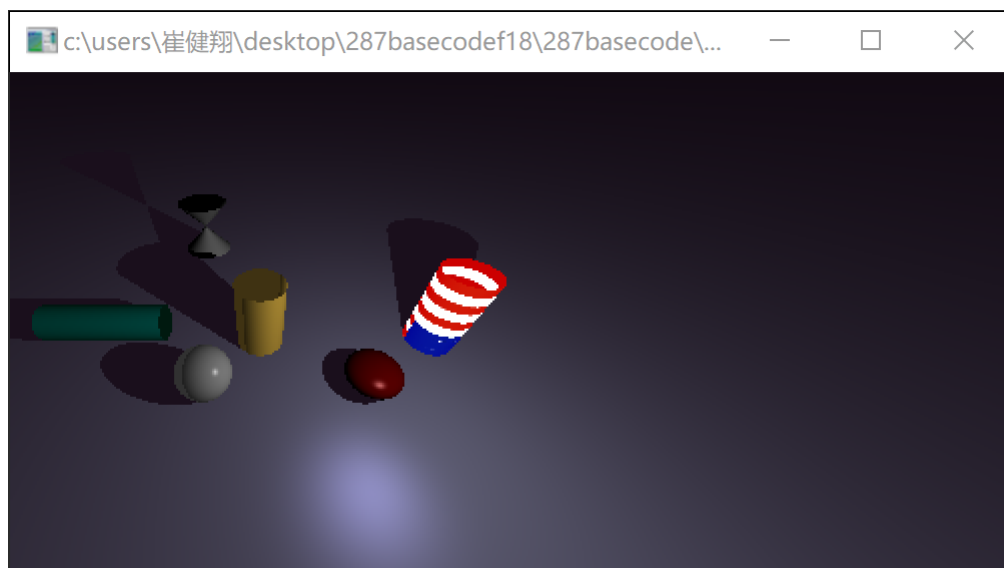2. Attenuation that can be turned on/off via keystrokes.

Press "w" one time:

Press "w" two times:

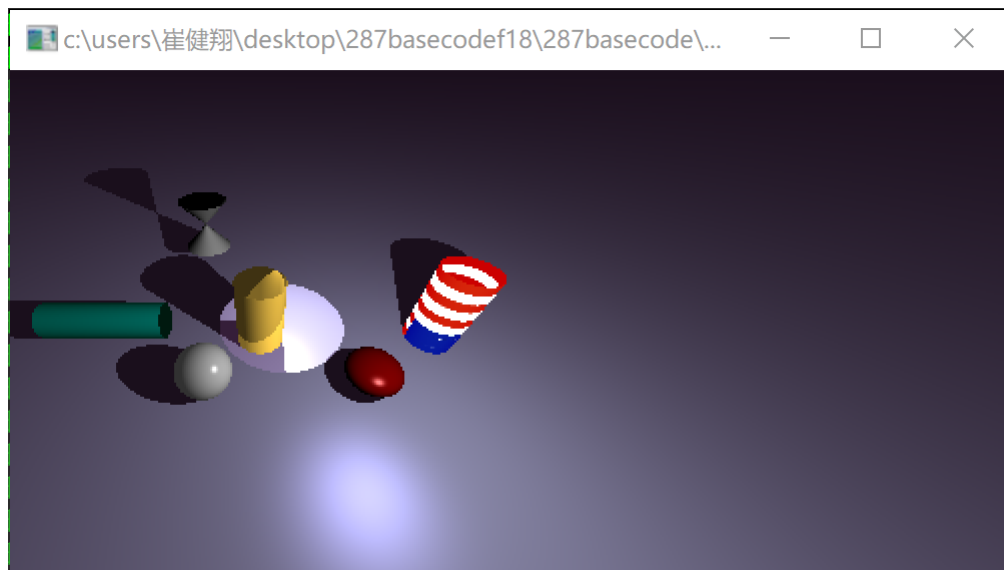Press "W" one time:

Press "E" one time:
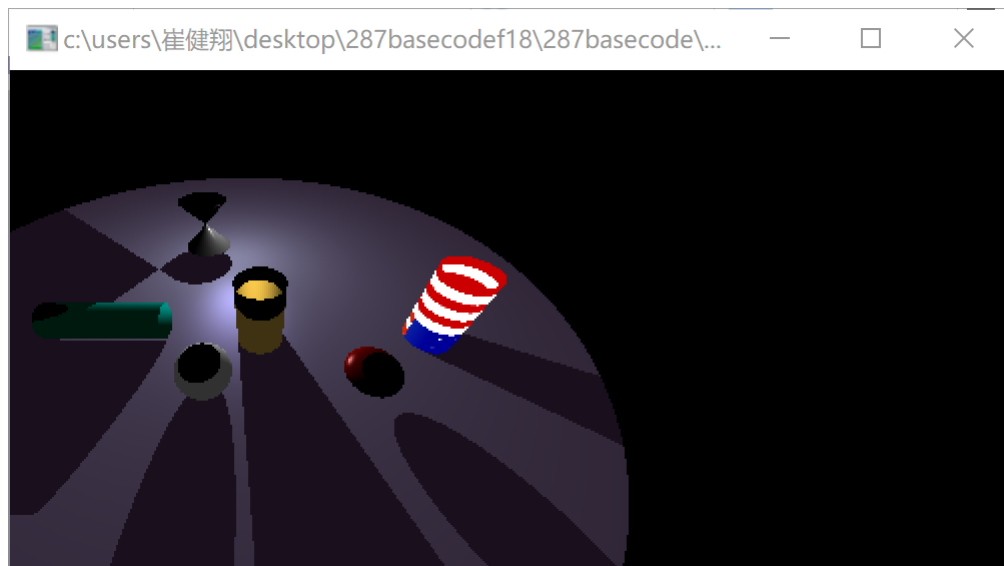
Press "R" one time:

3. Spotlight.
With both positional light and spotlight on:

With only spotlight on:
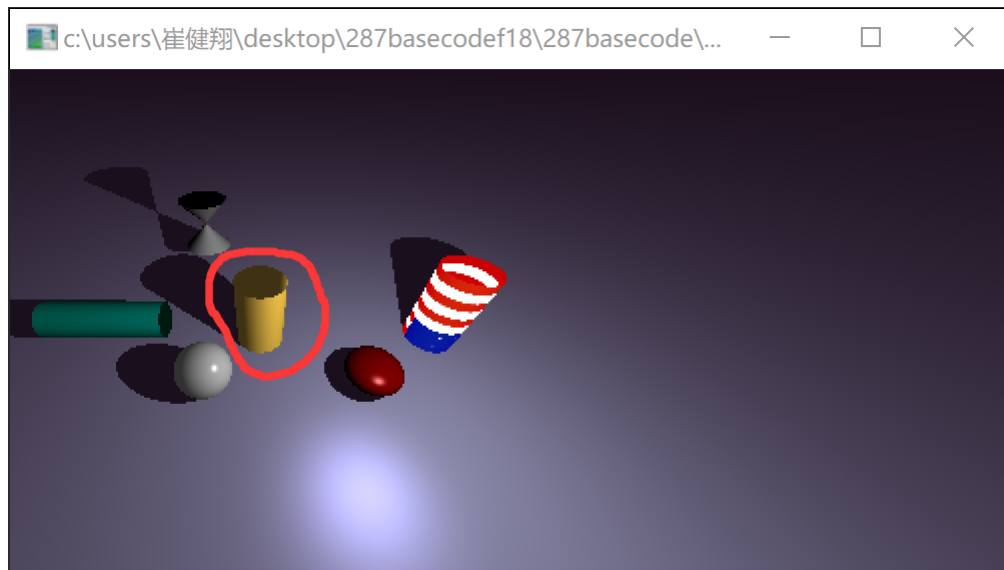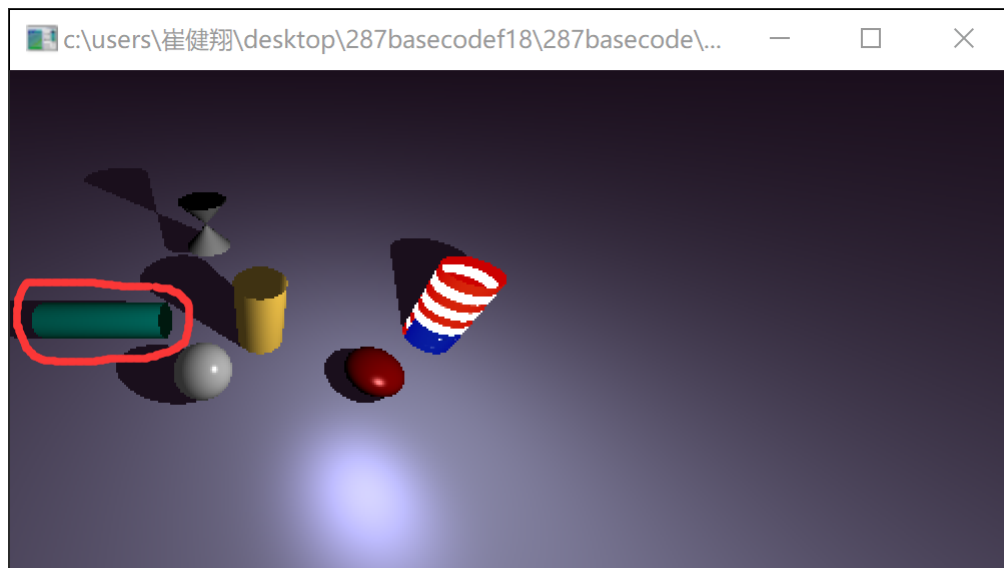
Press "F" to make FOV lager:

4. Shadows.
Take all the screenshot as reference.

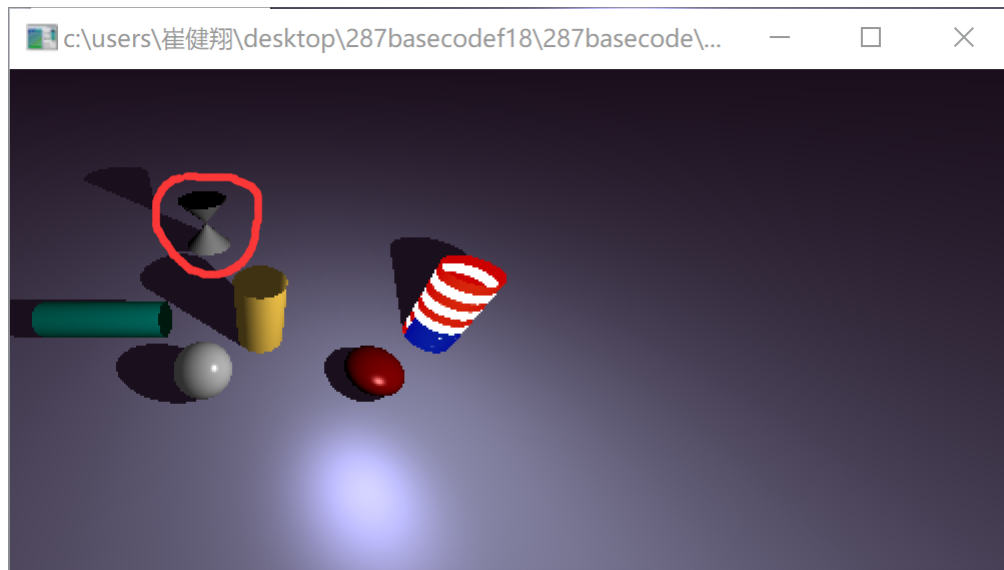5. Cylinder with closed ends and aligned with Y axis.
The one circled by red line.

6. Cylinder with open ends and aligned with X axis.
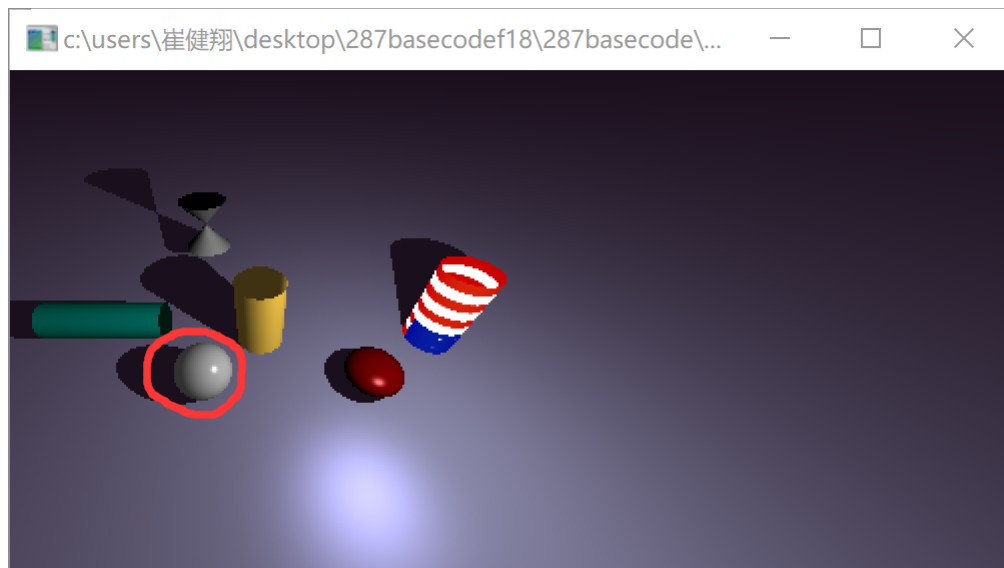The one circled by red line.

7. Y-aligned cone.
The one circled by red line.

8. Sphere.
The one circled by red line.

9. Plane.
The blue one.

10. Textures.
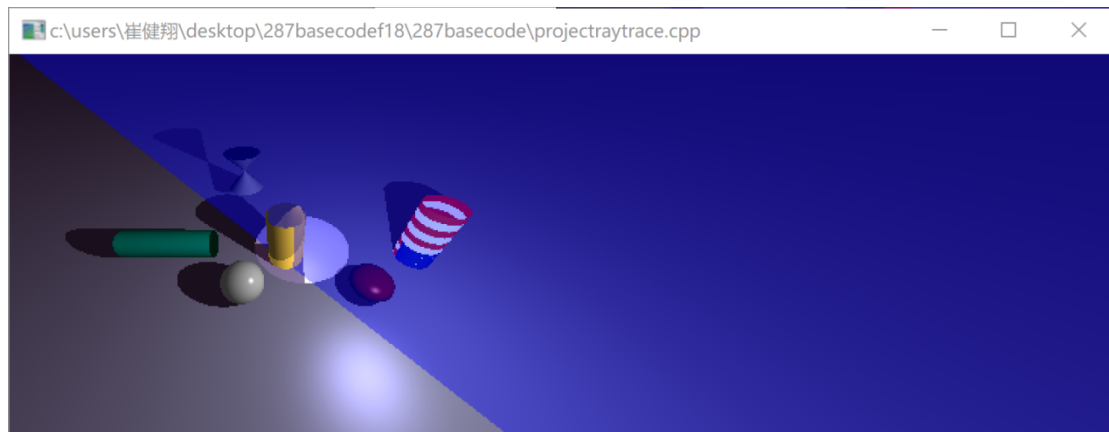The one circled by red line.

11. Transparency.
The blue plane is a translucent plane. Take No. 9 as a reference.
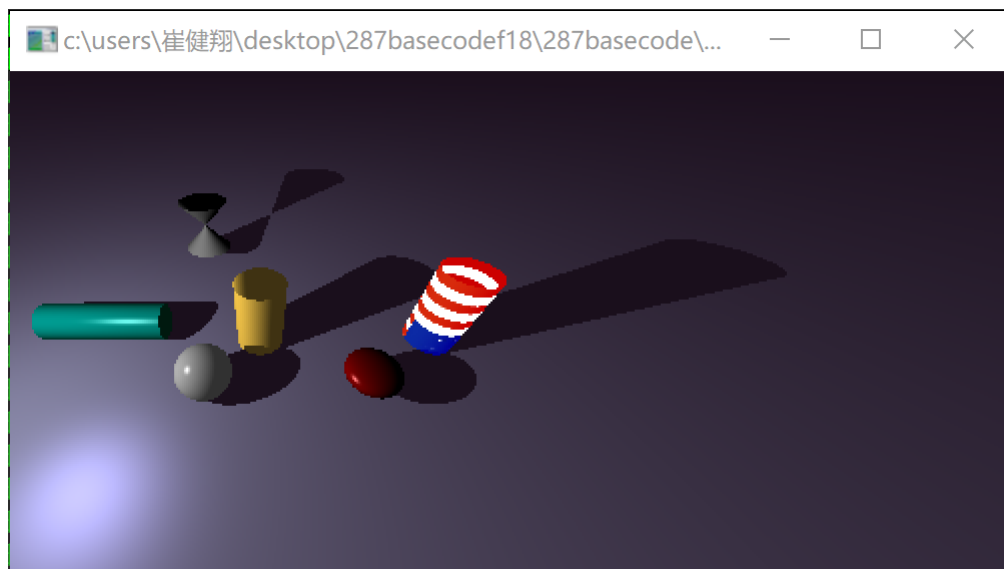
12. Resizing.
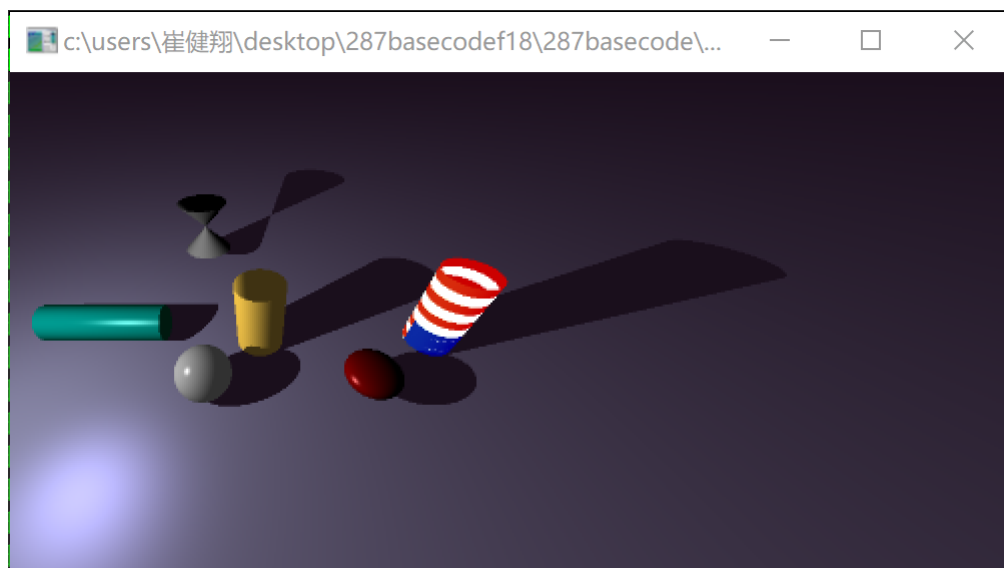Make the screen longer and the sphere is still a sphere.
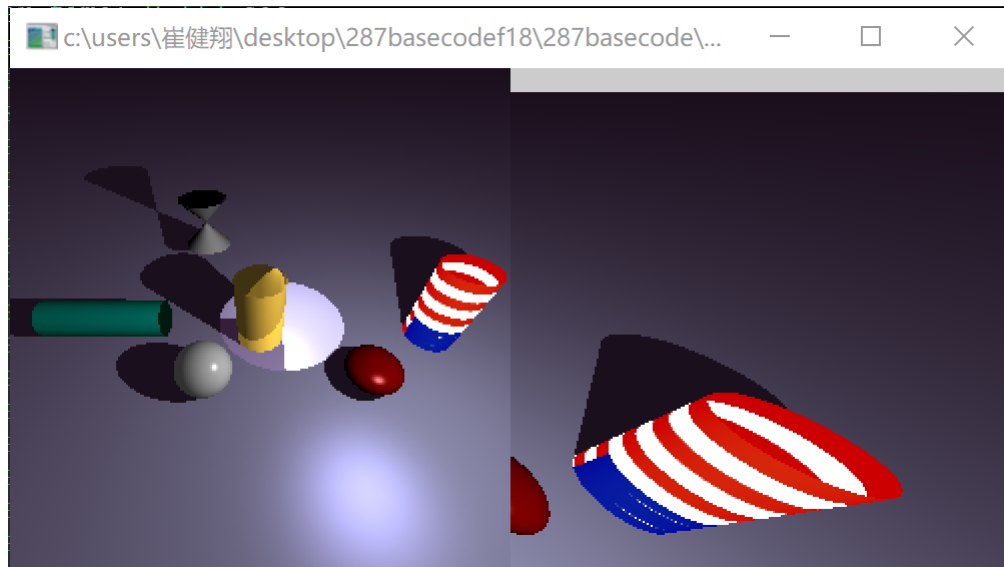
13. Anti-aliasing.
Before anti-aliasing:

After anti-aliasing:

14. Viewports.

The camera of left one is original camera still. The camera of right one is more close to the cylinder with image on it and still within the same scene.

List of functionalities that doesn't work (since we only need two of additional features):

1. Light tied to world or camera.
2. Reflections.