COMP 371 Computer Graphics Proposal

Motivation: I took this course in order to learn how to render scenes and objects in 3D, as well as be able to apply lighting and shading to them. I want to be able to use these scenes in projects such as games or have them be enjoyed as standalone art pieces by myself and others. Reflective surfaces and transparent objects have always looked particularly beautiful to me, so I'd like to incorporate those in my project.

Description: For my project, I would like to render a scene of a sidewalk or road with rain falling on it, forming a puddle, and hence, a reflection of some sort of light source, be it the sun during the day or a lamppost at night. The sidewalk and/or road would have the proper texture of pavement whilst also simulating the effect of a wet surface since it is covered in water due to the rain. The scene could also potentially include other objects, such as benches, grass or trees.

Objectives:

1. The scene should be able to render the raindrops as transparent objects. They should also have reflective properties as they are water.

2. The texture of the pavement of the sidewalk/road should be realistic, and it should look like a wet surface.

3. A light source should be part of the scene, and has an effect on the water shown through reflection.

4. When the water drops hit the ground, the particle should dissipate into the surface with a tiny splash.

5. When the water drops hit the puddle, the particle should also dissipate and have an effect (a ripple) on the puddle.