Final Project

1. You can select Project 1 or Project 2 as your final project.
2. You should finish the project by yourself, not in the team.
3. Everyone should prepare the presentation slides of your project. But due to the time limitation, about 30 students will be invited to make the presentation on week15&&16. Requirements of presentation:
    (1) Everyone should send slides to the email liluying@sjtu.edu.cn before 2019.6.1 23:59. And I will give you the presentation order before 2019.6.4 23:59.
    (2) Those who volunteer to make presentation will get extra 5 scores added to your total scores. Please notice me when you submit slides if you volunteer to make the presentation.
    (3) Each presentation should be about 10 minutes.
4. Codes and report are required to submit before 2019.6.18 23:59.
5. The report can be written in English or Chinese, but presentation must be in English.
6. Files in this format:" name_ID_proj1/2"
7. Late submission will be scored less grades.

Project 1

$$I_{\lambda} = I_{a\lambda}k_a + \sum_{1 \le i \le m} S_i[k_d L_{d\lambda}(l \bullet n) + k_s L_{s\lambda}(r \bullet v)^n], S_i = \frac{1}{a + bd_i + cd_i^2}$$

To Implement an algorithm for global illumination models:
1) ambient, diffuse, specula high light, shadows must be taken into account
2) transparency and refraction are optional
3) Polyhedral and spherical objects should be included (at least includes one cylinder, one sphere, one polyhedron and two light source)
4) Existing graphics packages or libraries, e.g., OpenGL or D3D, are encouraged to be used, but only basic functions, like primitive drawing, vertices array, matrix operation and color feature, are allowed to be used in your work.
5) Program should run well in Windows.

The following materials should be submitted:
1)Original source code
2)Executable files
3)Documentations
-   explanation text file for your code and configuration, e.g. types of light sources, constant coefficients you chose etc.
-   illustrate the method you use, problems you encounter and the experimental results

Examples of the output:

Chess — Metal Ring — Tableware

Balls — Sunlight — Abstract
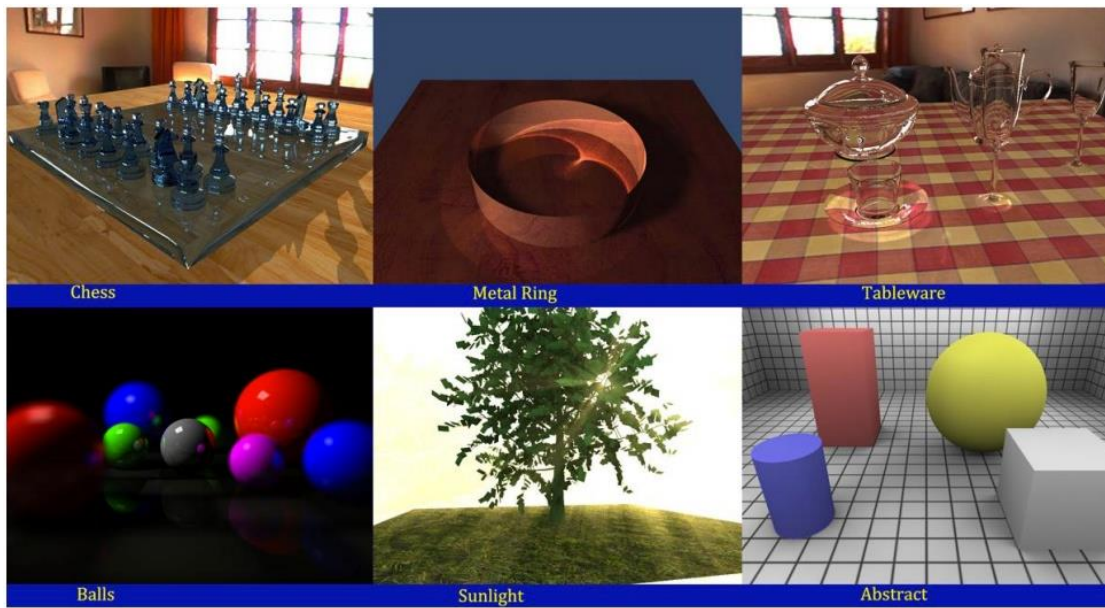
Project 2

To design a 3D game to exhibit embroideries.
1) design 3D models through 3DMAX/MAYA or other modeling software. (For example, you can model picture frames, Chinese screen(屏风), fans and other objects.)
2) Use Unity3D to design the game.
3) You can use any kind of Embroidery Pictures, as long as they are not torts.

The following materials should be submitted:
1)Original Unity3d project
2)Export the project through" File-build settings-Pc, mac and linux……-Windows", and submit the whole folder (zip/rar/7z) including executable files and other data.
3)Documentations
    · illustrate which models designed by yourself and how you designed these models in 3DMAX/MAYA.
    · illustrate how to manipulate the game.

Examples: