Mini projects | **Computer Graphics Lab** | 4-March-2016

1. Maximal convex patching - SVG
2. Maximal convex patching - OpenGL
3. Octree decomposition - SVG
4. Octree decomposition - OpenGL
5. Polyhedral approximation of a 3D mesh - SVG
6. Polyhedral approximation of a 3D mesh - OpenGL
7. Shadowing - SVG
8. Shadowing - OpenGL
9. Texture mapping - SVG
10. Texture mapping - OpenGL
11. Voxel chamfering from 3D mesh - SVG
12. Voxel chamfering from 3D mesh - OpenGL
13. Voxel set to constructive solid geometry - SVG
14. Voxel set to constructive solid geometry - OpenGL
15. Voxel set to cuboid set - SVG
16. Voxel set to cuboid set - OpenGL

Note

For every project, you have to do the following:

(a) Programming language: C/C++
(b) Build a proper GUI for user input and suggest suitable values / range to the user against each input.
(c) Implement illumination model with light position, color, and intensity as user-input.
(d) Camera position should also be a user-input.
(e) Nice coloring so that the result looks attractive.
(f) Codes should be well-structured and well-commented for easy understanding by the evaluator.
(g) Points will be less for inefficient algorithm / bad coding even if it is correct.
(h) Readme.txt that should contain compilation and execution instructions.
(i) Report.pdf containing the algorithm, its time complexity, proof of correctness, explanation with necessary diagrams, and sufficient test results (input & output).
(j) All files should be put in a zip named as projectID_RollNo.zip [4 MB max].
(k) No extra time will be given after the scheduled deadline.
(l) Each group should be of 2 students.