

CS4243 Course Project

- Please form your 4-men/women team if you have not done so.
- Same project for all, but you can add your own idea to enhance your project.
- Project will let you practice the following:
 - basic image processing skills
 - perspective projection
 - homography

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- OpenCV is allowed. Others (eg. 3D graphics packages, Sketchup) are not allowed
- Goal:
 - Generate a fly-through video from 1 given image
 - Generate the video by rendering each image without using existing libraries or code i.e. you have to write your own code to do perspective projection.
 - Generate about 12 seconds of 25 frames/sec video ie. you need to generate about 300 frames

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- suggested procedure:
 - build an interface to do the manual 3D extrusion
 - you can generate the 3D scene using human knowledge about how buildings look like, etc.
 - you can ‘invent’ the hidden building surfaces and roofs
 - now every point in the scene has (x,y,z) coordinates.
 - decide on a path that your camera will be moving
 - use perspective projection to generate what the camera will be seeing at each position along the path.
 - form a video by putting together all the images rendered.

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- You are allowed to use either Python or Java
- The image to be used is project.jpeg
- project deadline is 15th Nov Saturday.
- project presentation is 15th and 16th Nov. You will only need to come for your own project slot.