

CS 461 - Computer Graphics

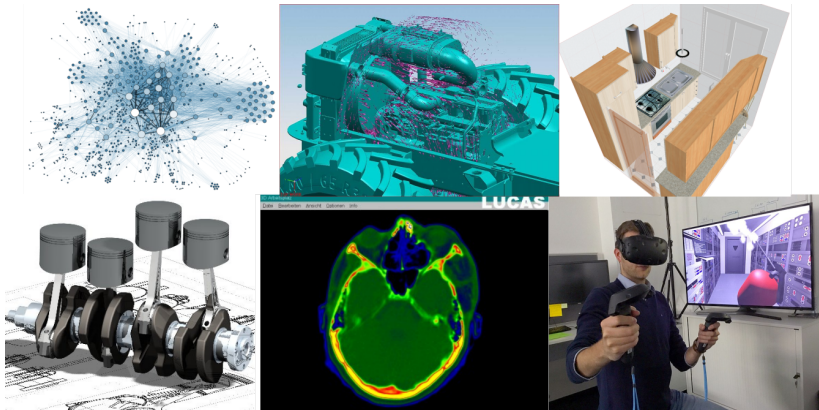
Introduction and Course Overview

Amal Dev Parakkat

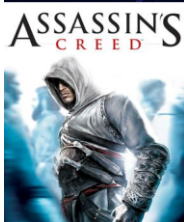


Computer Graphics :-)

Applications



Applications



What you'll learn!!!

- ▶ Fundamental Computer Graphics algorithms
- ▶ Basics of modeling, rendering and animation
- ▶ Basic OpenGL programming

Administration

- ▶ Course Instructor - Amal Dev Parakkat (amaldevp)
- ▶ Teaching Assistants:
 - ▶ Sandipan Sarma (sandipan.sarma) - T
 - ▶ Dhananjay Shukla (dshukla) - T
 - ▶ Lakhara Kamal Savarmal (lkamal) - T
 - ▶ Mahima Malik (mmalik) - P
 - ▶ Manjay Kumar (????) - P
 - ▶ MD Amir Khan (m.amir) - P
 - ▶ Deshmukh Shubham Madhukar (deshmukhshubham) - P
 - ▶ Himadri Shekhar (hshekhar) - P
- ▶ Moodle???

Grading

- ▶ Theory component:
 - ▶ Seminar - 30%
 - ▶ Assignments - 30%
 - ▶ Project - 40%
- ▶ Lab component:
 - ▶ Coding assignments - 100%
- ▶ Deadlines will be strictly followed - no exception (unless you have taken permission)
- ▶ DON'T WAIT TILL THE LAST MOMENT!!!

Seminar

- ▶ Understanding and briefly presenting a research paper (in 10-15 minutes)
- ▶ Allowed to choose from:
 - ▶ ACM Transactions on Graphics (<https://dl.acm.org/journal/tog>)
 - ▶ Computer Graphics Forum (<https://onlinelibrary.wiley.com/journal/14678659>)
 - ▶ Computers & Graphics (<https://www.journals.elsevier.com/computers-and-graphics>)
- ▶ Marks are based on:
 - ▶ Difficulty (ToG > CGF > C&G)
 - ▶ How clearly the basics are explained
 - ▶ Presentation (What, Why, How, Where it'll fail, and What [how it] can be improved)
- ▶ Get approval beforehand!!!
- ▶ Sooner – > Better

Assignments

- ▶ Reading assignment
- ▶ Simplified writing in your own words
- ▶ Don't copy, but you can discuss
- ▶ Marks are based on:
 - ▶ Understanding the concept
 - ▶ Simplicity
 - ▶ Self-containment
- ▶ Best assignment - bonus marks!!!

Project

- ▶ A coding project
- ▶ Marks are based on:
 - ▶ Completion of project
 - ▶ Intuitiveness
 - ▶ Creative thinking
- ▶ Take tips from seminar presentations
- ▶ Don't wait for the last moment - it is not going to be easy
- ▶ Can opt for group project (max 3 students per group), but:
 - ▶ have to convince me
 - ▶ will be having a viva
 - ▶ those who do not have enough contribution will end up with '0'

Extra marks :-)

- ▶ Seminar - hands-on introduction - Graphics software (for modeling, rendering and animation) - **Do let me know ASAP**
- ▶ Bonus marks for best assignments (one for each assignments)

Lab component

- ▶ Using C++ and OpenGL
- ▶ Expected to submit code (Linux) and a README file
- ▶ Assignments will be having equal weightage
- ▶ Again, you may discuss, but strictly no copying
- ▶ Bonus marks for best assignment (for each set) - add creativity

Classes

- ▶ Lectures (2 hrs) (Monday 10-11, and Thursday 9-10)
- ▶ Seminars (2 hrs) (Monday 11-12 and Thursday 11-12)
- ▶ Dates - September (5,7,10,14,17,21,24,26,28), October (1,5,8,10,12,15,19,22,26,29), and November (2,5,9,12,16,19,23,26,28)
- ▶ unrestricted seminar topic for those who are going to present on 11th September (4-5 students)
- ▶ Schedule will be available (temporarily) at:
<https://docs.google.com/document/d/1gzY1LwONmldVoqTQUhfM6Ujele1WZhFEVDY/edit?usp=sharing>

Course content

- ▶ Modeling, Rendering, and Animation (basics)
 - ▶ Textbooks are not required
 - ▶ Might look hectic, but worth it (and enjoyable) :-)
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- ▶ Change in class timings???
 - ▶ Problems – > don't hesitate to email

- ▶ Next class: Tomorrow (5th September - 10 to 11)
- ▶ Topics: Drawing primitives + Introduction to OpenGL