DM 2240
ADVANCED GAMES DEVELOPMENT TECHNIQUES

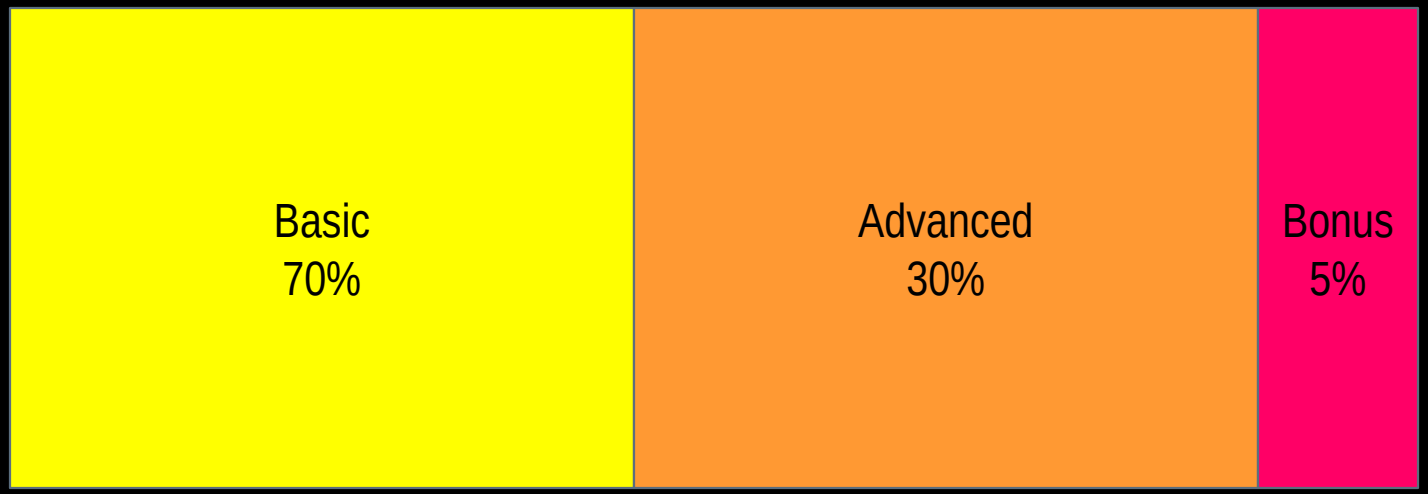
2015/2016 SEMESTER 2

Assignment 2

ASSIGNMENT 2 IS…

- Visibility + LUA Scripting
  - This is a continuation of your Assignment 1 project.
    - You will be creating a 3rd person environment, where the user is able to move the character around, and rotate the camera to survey and view the entire ground.
  - Use the game development techniques taught in this module to develop these techniques
  - Build using C++ and OpenGL
    - Visual Studio 2010 or 2013 are accepted
  - What you learn in weekly lab sessions will help you in your assignments.
  - Duration: ~ 6 weeks

ASSESSMENT

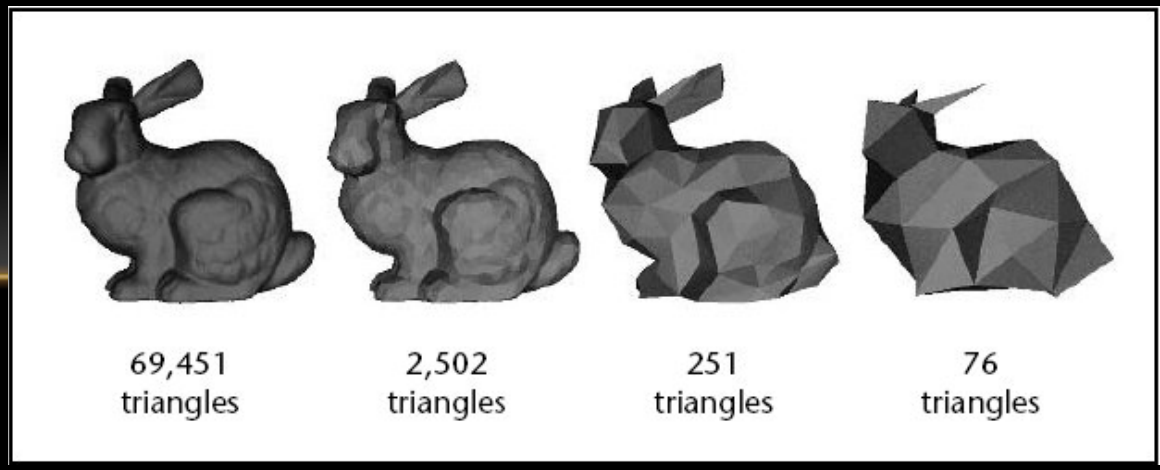


OBJECTIVES : BASIC (70%)

Assessment Criteria	Objectives	Weightage
Visibility and Level-of-detail	Integrate Level-of-Details (LOD) to your scene graphs of NPC/NPO	30%
Game AI	Implement Game AI in your game	40%

OBJECTIVES : BASIC (70%) : VISIBILITY AND LEVEL-OF-DETAILS (30%)

- Integrate Level-of-Details (LOD) to your scene graphs of NPC/NPO
  - Show the appropriate LOD when your character walk near them
  - Higher marks, if the LOD is integrated with Spatial Partitioning and/or Scene Graph
  - No ‘popping’ effect == Better grade
  - Lower fidelity is not noticeable == Better grade



OBJECTIVES : BASIC (70%) : GAME AI (40%)

- Implement Finite State Machine into your NPCs.
  - Minimum of 2 states
  - Respond to your character or game events
- Good implementation of Illusion of Intelligence == Good grades!

OBJECTIVES : ADVANCED (30%)

Assessment Criteria	Objectives	Weightage
Use LUA library	Use LUA library in your game project; Use LUA scripting to initialise your OpenGL display environment, Game Environment, Settings and GamePlay.	30%

OBJECTIVES : ADVANCED (30%) : USE LUA LIBRARY (30%)

- Integrate LUA library into your game project
  - Include the headers.
  - Link the libraries.
  - Initialise the lua library when starting the program.
  - De-Initialise the lua library when quitting the program.
  - Load and Unload the LUA script file

OBJECTIVES : ADVANCED (30%) : USE LUA LIBRARY (30%)

- Create the appropriate LUA scripting codes to read values from an initialisation data file, and initialise
  - the width and height of your OpenGL program.
  - Set the character's HEALTH STATS.
- Marks will be given for creative use of LUA scripting in this category

OBJECTIVES

- Develop a 3D Third-Person Game with the following features:
  - Bonus (For students aiming for distinctions)

Topics	Objectives	Weightage
Bonus	Successfully implement 1. Flocking, OR 2. Waypoints	5%

OBJECTIVES : BONUS (5%)

- Successfully implement the following in your game's AI
  - 1. Flocking, OR
  - 2. Waypoints

TOPIC WEIGHTAGE

Topics	Basic	Advanced	Bonus
Visibility and Level-of-detail	30%	-	-
Game AI	40%	-	
Use LUA library	-	30%	
Bonus	-	-	5%

HOW IS GRADING DONE?

Grade	Marks	Example: Camera and GUI (30%)
Excellent	100%	100% of 30% = 30%
A	80%	80% of 30% = 24%
B	70%	70% of 30% = 21%
C	60%	60% of 30% = 18%
D	50%	50% of 30% = 15%
F	1%	1% of 30% = 0.3%

DELIVERABLES

- Produce a 3D Third-Person Game which uses Level of Details, Game A.I. and LUA scripting
- Present your work to tutor AND lab mates during your lab session
- Submit your work (in softcopy, of course) to blackboard BEFORE your presentation

DEADLINES

Week of

8 to 12 February 2016

YOU NEED TO SUBMIT YOUR WORK TO BLACKBOARD BEFORE PRESENTING IN LAB!