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Question Paper Code : 20344

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Computer Science and Engineering

CS 6006 — GAME PROGRAMMING

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define the term Shader.
2. List out the various representation schemes used in three dimensional objects.
3. What is Polling?
4. How do you avoid cache misses?
5. Draw the architecture of Game Application Layer.
6. What is Event in game logic?
7. Sketch the structure of 2D interactive games.
8. How do you know if DirectX is using hardware acceleration or software rendering?
9. Mention the importance of OpenGL in developing interactive games.
10. What is tile-based games?

PART B — (5 × 13 = 65 marks)

11. (a) Examine the functionalities of stages evolved in the various shader models. (13)

Or

- (b) Predict how the following is useful in increasing the visual realism of the 3D scene :
 - (i) Texture Addressing Model (4)
 - (ii) Texture Filtering (3)
 - (iii) Mipmapping (3)
 - (iv) Anisotropic Filtering. (3)

12. (a) Propose the fundamental algorithms upon which various state-of-the-art techniques can be built to control human character animation. (13)

Or

- (b) Describe in detail how Collision detection algorithms are categorized. (13)
13. (a) Devise the steps to create a general physics engine that handles interacting bodies. (13)

Or

- (b) Explain how caching game data is deployed. Give example and explain the processing of controlling and loading data. (13)
14. (a) Explain in detail the different gaming platforms with the list of popular games developed in each gaming platform. (13)

Or

- (b) How to make games with Python? Explain the Python support for games and mention some famous games written in Python. (13)
15. (a) Design a 3D version of a ball-and-paddle game and explain the steps in detail. (13)

Or

- (b) Describe how to draw animated sprites and transparent sprites using DirectX programming. Explain the 3D graphics fundamentals of DirectX programming. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Create a simple game in any of the gaming platform and explain. (15)

Or

- (b) Discuss the importance of Resources and File systems with game engine design. (15)