Kentucky CTE

Computer Science: Advanced Game Development and Publishing 113602 (2026–2027)

Compare and contrast licensed vs. proprietary game engines. 1

1 Compare and contrast licensed vs. proprietary game engines. 1

Debate the strengths and weaknesses of various game engines. 2

2 Debate the strengths and weaknesses of various game engines. 2

Discuss the impact of a game engine on the development of a game. 3

3 Discuss the impact of a game engine on the development of a game. 3

Explain how game engines work. 4

4 Explain how game engines work. 4

Explain character advancement in relation to storyline and gameplay. 5

5 Explain character advancement in relation to storyline and gameplay. 5

Define the size of the player environment. 6

6 Define the size of the player environment. 6

Explain the locations and purpose of non-player characters (NPC). 7

7 Explain the locations and purpose of non-player characters (NPC). 7

Sp bo within the game. 8

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pecify boundaries and borders of the levels within the game. 8

Justify placement of triggers and scripted events. 9	9 Justify placement of triggers and scripted events. 9
Develop a game with multiple levels. 10	10 Develop a game with multiple levels. 10
Research types of GUI. 11	11 Research types of GUI. 11
Recognize and implement required feedback for the GUI. 12	12 Recognize and implement required feedback for the GUI. 12
Create a flowchart that maps the GUI's functionality. 13	13 Create a flowchart that maps the GUI's functionality. 13
Design and implement a GUI using wireframes. 14	14 Design and implement a GUI using wireframes. 14
Create a victory condition. 15	15 Create a victory condition. 15
Assemble immersive elements into a game. 16	16 Assemble immersive elements into a game. 16
Establish reward systems and in-game economies. 17	17 Establish reward systems and in-game economies. 17
Apply game mechanics to the game world. 18	18 Apply game mechanics to the game world. 18
Balance and test game mechanics. 19	19 Balance and test game mechanics. 19
Integrate different types of audio, including sound effects, ambient ba sc	20 Integrate different types of audio, including sound effects, ambient background, dialog, and score. 20

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Practice creating sound loops. 21	**21 Practice creating sound loops.** 21
Determine acceptable media files for game development, such as sound, graphics, and video. 22	**22 Determine acceptable media files for game development, such as sound, graphics, and video.** 22
Import appropriate media for a game. 23	**23 Import appropriate media for a game.** 23
Incorporate feedback sounds. 24	**24 Incorporate feedback sounds.** 24
Compare and contrast the benefits of various platforms and their target markets. 25	**25 Compare and contrast the benefits of various platforms and their target markets.** 25
Evaluate the need for flexibility and scalability when developing for a PC. 26	**26 Evaluate the need for flexibility and scalability when developing for a PC.** 26
Explore development tools specific to various consoles. 27	**27 Explore development tools specific to various consoles.** 27
Research procedures to deliver a game to mobile markets. 28	**28 Research procedures to deliver a game to mobile markets.** 28
Pitch a project and defend why it is entertaining. 29	**29 Pitch a project and defend why it is entertaining.** 29
Explain the role of social media in marketing. 30	**30 Explain the role of social media in marketing.** 30
Describe crowdsourcing and crowdfunding. 31	**31 Describe crowdsourcing and crowdfunding.** 31
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branding behind video games. 32

Analyze successful trailers. 33

33 Analyze successful trailers. 33

Explain the concepts of localization and its impact on design. 34

34 Explain the concepts of localization and its impact on design. 34

Describe various pay models, such as free-to-play, pay-to-play, singer-user license, and freemium. 35

35 Describe various pay models, such as free-to-play, pay-to-play, singer-user license, and freemium. 35

Describe the integration of social components in a game. 36

36 Describe the integration of social components in a game. 36

Explain the role of social media in the gaming community. 37

37 Explain the role of social media in the gaming community. 37

Describe professional events in digital gaming. 38

38 Describe professional events in digital gaming. 38

Summarize characteristics of cloud gaming. 39

39 Summarize characteristics of cloud gaming. 39

Evaluate the advances of multi-player gaming. 40

40 Evaluate the advances of multi-player gaming. 40

Discuss trends in input devices. 41

41 Discuss trends in input devices. 41

Examine current trends in output devices and displays. 42

42 Examine current trends in output devices and displays. 42

Explore advances in peripheral devices. 43

43 Explore advances in peripheral devices. 43