

1 History of Game Design「29pt」Q1

Throughout history, people have invented and played games of all kinds. Physical games, intellectual games, casual games, competitive games, and more.

1. You and your group must choose a Century or Era to focus your research into games on. For example: the 1700's, or Ancient Greece.「2pt」
2. Gather as many examples of games from your chosen period as you can.
 - a. What games did they play?「4pt」
 - b. What strategies did they use to win?「4pt」
 - c. Did the rules of the game change over time?「4pt」
 - d. Demonstrate to the other groups how to play the game.「4pt」
3. Are any of the games you researched similar to modern day games?
 - a. If yes, how is it / are they similar? If no, what makes the game so unique?「5pt」
4. In the history of video games there are numerous influential people, companies, laws, and games.
 - a. Describe three advances in video game development.「3pt」
 - b. Describe a future advancement you expect to see in video game development within the next 20 years. 「3pt」

2 Game Design Theory「29pt」Q1

1. Shneiderman's "Eight Golden Rules of Interface Design"
 - a. List the eight rules.「4pt」
 - b. Choose one of the rules, and explain why it is important to interface design.「4pt」
2. Explain how games benefit society.「4pt」
3. Using a Venn diagram, compare and contrast two different video games by:
 - a. Critiquing each game's design.「4pt」
 - b. Analyzing basic components of the game design.「4pt」
4. In one paragraph each, explain the role of _____ in video games:
 - a. Level design「1pt」
 - b. Environmental design「1pt」
 - c. Documentation「1pt」
 - d. Achievements and rewards「1pt」
 - e. Cooperation and competition「1pt」
 - f. Reference material「1pt」
 - g. Artificial intelligence「1pt」
 - h. Cheat codes「1pt」
 - i. Customization「1pt」

3 Physics and Math in Games「29pt」Q1

Math and physics are very important factors in modern video games. Without basic physics and math, many games would feel strange or not even be possible to play.

1. For each of the following physics or math concept, identify two games that use it:
 - a. Gravity「1pt」
 - b. Newton's 1st law of motion「1pt」
 - c. Newton's 3rd law of motion「1pt」
 - d. Random number generation「1pt」
 - e. Probability calculation「1pt」
2. Choose two of the above physics or math concepts, and provide an example of a calculation for each. You do not have to calculate it yourself, just identify and provide examples.「4pt」
3. Categorizing:
 - a. Create a chart of twenty different games on the vertical axis, and the above physics and math concepts on the horizontal axis.「4pt」
 - b. Complete the chart by identifying which concepts each game uses.「4pt」
 - c. If you notice any patterns between certain game genres, explain what the pattern is. If you do not notice any patterns between certain game genres, explain why there is no pattern despite the differences in genre.「4pt」
4. Choose a game with unrealistic physics. Explain which physics concepts are unrealistic, and in what way they are unrealistic.「4pt」
5. Choose a game with realistic physics. Explain which physics concepts are realistic, and in what way they are realistic.「4pt」

WCW - Video Game Design (5397) Projects

4 Making a Game「29pt」Q2

Using the tools and software available in class, you and your group will create a simple 2d platform game. Instructions will be provided on how to accomplish this, but all the creative elements will be left up to you and your group to determine.

Please review the VGD2_gameDesignDocumentTemplate1.pdf and VGD2_gameDesignDocumentTemplate2.pdf files for examples of GDDs.

1. Submit a storyline (minimum 500 words, creative writing assignment) including:
 - a. 4 levels「4pt」
 - b. Enemies「2pt」
 - c. A boss fight「3pt」
 - d. Timing「3pt」
 - e. Loss of lives「3pt」
 - f. Scoring「3pt」
 - g. Text Blocks「3pt」
 - h. Collisions 「3pt」
2. Create the game one stage at a time:
 - a. You and your group cannot code the next stage until the current stage is completed accurately and operates properly.
 - i. Another group will test play your game at each stage and provide feedback on what needs fixing. You will also do the same for other groups.「2pt」
3. Submit a written reflection (minimum 200 words, expository writing assignment) of how the project went for you and your group. **Expository means informative writing that has no opinion and sticks to the facts.*「3pt」

5 Graphics and Sound Production「29pt」Q2

No one can deny that graphics and sound play a key role in modern video games, both for immersion, appeal, realism (or fantasy), and design. To that end, you and your group will develop several characters, sound effects, and background music for an example game.

For this project you and your group may use tools and software available in the class, or free online options.

1. Design and create:
 - a. 8 sounds「4pt」
 - b. 1 music track「4pt」
 - c. 2 characters 「4pt」
 - d. one, eight-frame animation strip「4pt」
2. Write one paragraph assessment / critique for each of the following:
 - a. One of your own characters for originality, function, and audience appeal.「4pt」
 - b. A character made by a peer for originality, function, and audience appeal.「4pt」
3. Submit a written reflection (minimum 500 words, expository writing assignment) describing your design process, how your work was assessed, whether or not changes were made based on those assessments, and how well your product worked in a video game environment.「5pt」
**Expository means informative writing that has no opinion and sticks to the facts.*

WCW - Video Game Design (5397) Projects

6 Competitive Games「70pt」Q3

Competition is an important part of social development for children, as well as being a very popular form of entertainment for people. For this project, you and your group will collaboratively create and produce an original, competitive, 2D platform game. No outside assets will be permitted.

1. Explain what your group will do at each stage of the Engineering and Design Cycle process.「5pt」
2. Complete and submit project section 4.1 as a part of this project.「24pt」
3. Complete and submit project section 5.1 as a part of this project.「16pt」
4. List the game rules your game will use to ensure competitive standards are met.「5pt」
5. Constructively critique another group's game. 2-3 paragraphs.「4pt」
6. Modify your group's game based on peer critiques, and list the modifications.「4pt」
7. For each of Shneiderman's "Eight Golden Rules of Interface Design", briefly explain how your group has applied them to your group's game.「4pt」
8. With your group:
 - a. Write a one-page advertisement and description of the game.「4pt」
 - b. Present your group's game to the class with an oral presentation supported by media.「4pt」

7 Digital Portfolio「29pt」Q4

Students are guided in how to produce a professional, digital portfolio.

1. Students will create a professional digital portfolio that includes:
 - a. A letter of interest.「3pt」
 - b. A completed job application.「3pt」
 - c. A resume.「3pt」
 - d. Copies of any earned certificates.「3pt」
 - e. Incorporate into highlight video:
 - i. work samples of your best screenshots.「3pt」
 - ii. work samples of your best recorded gameplay of your games.「3pt」
 - iii. sound, narration, and/or music to tastefully add professional quality.「3pt」
 - f. Participate in a mock interview(s) in which you present your portfolio and highlight video.「5pt」
 - g. Complete a job search for a Video Game Industry job or career path, and list 3 results.「3pt」