CSCI 0021 - THE GAME DEVELOPMENT PROCESS

Catalog Description

Advisory: Completion of MATH D with grade of "C" or better
Hours: 72 (54 lecture, 18 laboratory)
Description: Introduction to the history, technology, ethics, and design of computer games. A generally accessible course about the process of creating computer games from concept to implementation, including documentation, storyboards, character design, gameplay, animation and marketing. Students use these concepts to create a complete computer game of their own design. Programming experience not required. (CSU, UC)

Course Student Learning Outcomes

- CSLO #1: Identify and distinguish between various electronic game genres and platforms.
- CSLO #2: Describe, analyze and criticize a game based on its game play and reward system.
- CSLO #3: Write documentation (concept, proposal, manual) for an original game idea.
- CSLO #4: Evaluate different issues related to the game industry and culture (gender, violence, etc.)
- CSLO #5: Identify the different job positions needed in the game industry to design, create, and market an electronic game.

Effective Term

Fall 2020

Course Type

Credit - Degree-applicable

Contact Hours

72

Outside of Class Hours

90

Total Student Learning Hours

162

Course Objectives

Lecture Objectives:
1. Identify and distinguish various computer game genres;
2. Identify and distinguish the types of computer game platforms;
3. Describe, analyze and criticize a game based on its gameplay and reward system;
4. Evaluate gender issues in the computer game industry and culture;
5. Critically evaluate the claim that computer games create problems in society;
6. Predict the likely success of a particular game design;
7. Identify the various roles and responsibilities within the game industry;
8. Identify what motivates people to play games and how geographics, psychographics, and demographics play a role in determining what types of games people play;
9. Identify game elements including player modes, time intervals, challenges, and strategies;
10. Evaluate story structure and storytelling in games and compare them to those in movies and TV;
11. Describe character types and archetypes;
12. Describe the purpose of dialog in games;
13. Describe the "prisoner's dilemma" and the "tragedy of the commons";
14. Describe the differences between looping and adaptive music in video games;
15. Describe the differences between manual and visual interface and active and passive interface.
Laboratory Objectives:
1. Compose a concept/proposal document for a simple 2D game that includes artwork, game play description, and rules;
2. Estimate the time and cost for programmers and artists to implement a particular game concept;
3. Evaluate usability issues in computer games;
4. Design and implement a complete 2D computer game that incorporates the following programmatic features:
4a. Sprites, sound, animation, and scoring;
4b. Implement the programmatic game features from the concept document utilizing critical thinking about events, actions, collision control, and physics simulation; and
5. Compose a user manual for a computer game.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- CSU Transferable
- UC Transferable

Methods of Evaluation

- Essay Examinations
  - Example: 1. Explain what sprites are and how they are used in computer games. Rubric Grading 2. Identify and distinguish various computer game genres. Rubric Grading.
- Problem Solving Examinations
  - Example: Estimate the time and cost for programmers and artists to implement a particular game concept. Rubric Grading
- Projects
  - Example: Design and implement a complete 2D computer game that incorporates the following programmatic features: Rubric Grading 1. Sprites, sound, animation, and scoring; 2. Implement the programmatic game features from the concept document utilizing critical thinking about events, actions, collision control, and physics simulation.
- Reports
  - Example: Sprites also move around the screen independently of the background and of each other. Write a design document for a simple game of any type. The document must be at least four pages long and include a brief summary of the game, the type of

game, the rules of the game, the target audience, and drawings to illustrate game play. Rubric Grading.

Repeatable

No

Methods of Instruction

- Laboratory
- Lecture/Discussion
- Distance Learning

Lab:

1. Instructor discussion on "Sprites." Sprite is a sequence of still images presented in order to give the illusion of animation. A sprite also moves around the screen. Think of sprites in well-known games. Use a flip-book animation to demonstrate how the images create animation. Use a computer-based application to demonstrate a sprite in action. (Laboratory Objective 4)

Lecture:

1. The topic is gender issues in gaming. Lecture and discussion with the class what attracts people to games. Ask students whether they think there is a gender bias and cite examples. Explore reasons why gender equity would or would not be beneficial, and to whom. (Lecture Objective 3)

Distance Learning

1. The instructor will present a video lecture on how to incorporate Sprite, sounds, animation and scoring in a game. After the student views the lecture, they will design and implement a complete 2D computer game that incorporates the following programmatic features such as sprites, sound, animation, and scoring. (Laboratory Objective 4)

Typical Out of Class Assignments
Reading Assignments

1. Read chapter in text on "Game Elements: What Are the Possibilities?" and be prepared to discuss in class. 2. Find three online articles about gender/violence issues in computer gaming. Print them out, read through them, and be prepared to discuss them in class.

Writing, Problem Solving or Performance

1. Summarize the three online articles you found into a two-page essay. Agree or disagree with the authors. Write a paragraph explaining your position with quotations from the articles. 2. Write documentation for your game that the player would read. Include instructions on how to install the game and play it.

Other (Term projects, research papers, portfolios, etc.)
Required Materials

- Fundamentals of Role Playing Game Design
  - Author: Ernest Adams
  - Publisher: New Riders
  - Publication Date: 2014
  - Text Edition: 1st
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Game Design Essentials: An Introduction
  - Author: Jeannie Novak
  - Publisher: Thomson Delmar
  - Publication Date: 2011
  - Text Edition: 3rd
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Fundamentals of Game Design
  - Author: Ernest Adams
  - Publisher: New Riders
  - Publication Date: 2013
  - Text Edition: 3rd
  - Classic Textbook?: No
  - OER Link:
  - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.