

Topics in Games Development

ECE 495/595 & CS 491/591

Spring 2007

Instructors:

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Overview:

Video games have become one of the dominant forms of entertainment in our times, pulling audiences away from their TV sets and movies and even making more money than feature films. Sometimes referred to as the “third screen,” these games encompass works made for video game consoles, computers, mobile devices and the Internet. While enormously popular as a form of entertainment, video games are also an effective vehicle for education, training, information, promotion and advertising.

Content:

This topics class will explore the entire process of developing and producing video games. Via lectures, readings, hands on experience, and the participation of outside speakers from the game community students will gain insight into the various elements that go into the making of a video game. The first weeks of the course will focus on the development process, with each student creating a concept for a video game. Later in the semester, students will form interdisciplinary teams which will each produce a working game using the Torque Game Engine, one of the most popular, powerful, and easy to use game engines available today. Teams will write midterm progress reports on their projects, and the semester will culminate with demonstrations of the games to the instructors, fellow students and professionals from the field.

Partial list of topics to be covered:

- The fundamental characteristics of games
- Game genres
- Gameplay
- The target audience
- The role of the player
- Characters in games
- The function of narrative in games
- Systems of rewards and penalties
- Interface and navigation
- Overview of computer graphics
- Artificial Intelligence and games
- Creation of art for games

Prerequisites:

Senior or graduate standing in science, engineering, media arts, art, music, management, health sciences, or other related field.

Textbooks:

Required: GAME DEVELOPMENT ESSENTIALS by Jeannie Novak, Thomson Delmar Learning, 2005.

Optional, but strongly recommended: THE GAME PROGRAMMER'S GUIDE TO TORQUE: UNDER THE HOOD OF THE TORQUE GAME ENGINE by Edward F. Maurina III, A K Peters.

A more detailed list of reference texts will be provided.

Grading:

Quizzes on readings -- 15%

Class participation -- 5%

Individual game proposals -- 20%

Midterm reports -- 25%

Final report and presentation -- 35%

Policy on late papers:

No late papers will be accepted after the due date except in cases where the student has sought permission from instructors **in advance** of the due date. Extensions will be granted solely at the discretion of the instructors.