COMP 585: Serious Games

Bulletin Description
Concepts of computer game development and their application beyond entertainment to fields such as education, health, and business. Course includes team development of a game.

General Course Info
Term: TERM SPRING 2015
Department: COMP
Course Number: 585
Time (full class) TR 9:30-10:45
Time (sections) Section 1, TR 9:05-10:20
Section 2, TR 9:30-10:45
Location: SN011
Website: http://www.cs.unc.edu/Courses/comp585-s15

Instructor Info
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Office Hours: Open Door Policy

Textbooks and Resources
There are no required or recommended textbooks. All recommended or required readings will be available or referenced on the class website.

Sakai will be used for the submission of assignments and the returning of comments and grades.

Game development will use freely available software that the student will be expected to download.

Course Description
Serious Games are training, learning, or propaganda games used in schools, the military, companies, and the public service sector. The premise behind studying serious games is three-fold:
• First, games are a legitimate artistic media and just as we teach and preach through other forms of art, we can do so through games as well. Because people learn through doing, it is a way for players to absorb concepts in an efficient and memorable manner.
• Second, games are a natural way for "digital natives" to interact with concepts. If we want to engage this population, we should do so in a media that interests them.
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- Finally, if people are going to play games, perhaps we can give them some games with additional value beyond entertainment (think classics vs. romance novels).

This course is intended as a broad introduction to the field of serious games. We will look at a number of examples of existing serious games in order to learn through case studies. The focus will be on game design but we will also look at development issues. We will explore serious game development and how the components of games may be applicable to other areas.

In order to study serious games, however, we need to study games. We will look at the design of games. While the course project has you building a game, the intent is to focus on its design and understand what makes a good game. Students will be expected to articulate and justify their design decisions. We will look at non-computer games as well as computer games because a good game is good independent of its embodiment.

Target Audience
COMP 585 is intended for computer science majors who are interested in the area game development and have the requisite background to be pursuing advanced topics in the field.

Prerequisites
COMP 410 or 411.

Goals and Key Learning Objectives
By the end of the course, each student will
- Understand all elements of good game design at a general level and understand at least one element in significant detail
- Be able to design elements of a game and explain the benefits of those design decisions
- Be able to identify elements of an existing game and critique the decisions
- Understand the interdisciplinary nature of game design through their team experience
- Understand the elements of games that are universal and those that are unique to video games
- Understand the basics of computer game development
- Be able to use a game development platform for basic tasks
- Be able to instrument a game in order to evaluate its effectiveness
- Be able to critique serious games as games and in their effectiveness

Course Requirements
The major project of COMP 585 is the instructor-mentored team design and implementation of a serious game. Teams will meet regularly with the instructor. Project grades are based on design, implementation, documentation, effort, teamwork, and accomplishment.
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Additional assignments include a research presentation, creation of non-computer games, and a game critique. These other assignments will include a mix of team and individual activities. Class presentations require preparation meetings with the instructor.

The final exam will be take-home and will be the design of a game to meet a specific need (for example, to teach people about the importance of privacy or helping a patient with rehab).

Key Exams and Assignments
Besides demonstrating your team game to the instructor on a regular basis, demos of it and of the non-computer games will be made in class. Other key dates will be critique and research presentations; these will be scheduled individually.

Final game presentations are given at the time of the scheduled final exam.

Grading Criteria
Course grading weights are as follows:
- Team game: 40% (divided evenly between the game and the design)
- Research presentation: 25%
- Game critique: 15%
- Non-computer games: 10%
- Final exam: 10%

All presentation grades include both content and style. While not everyone is a natural speaker, communication is a critical skill and students are expected to master the basics.

Course Policies
Attendance: While attendance is not taken in the COMP 585 class, I expect student attendance at all peer presentations. For other classes, I only point out that there is no textbook in this class because the content is not available in any simple form. If you are interested in the content, you need to listen to lectures. We also have a number of outstanding not-to-be-missed outside speakers during the class.

The course final is given in compliance with UNC final exam regulations and according to the UNC Final Exam calendar.

Honor Code
Collaboration and peer-learning are necessary for team projects. Only the individual assignments are not to be done collaboratively. These are open book, open notes, and open network.
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Example Topics

Topics typically covered in the class include the following. Specific topics will be determined by class interest.

- What is a game?
- Serious games
- What is a critique?
- Elements of a game
- Game genres
- Gameplay
- Emergent play
- Balance in games
- Game mechanics
- Graphics
- Virtual reality
- Landscapes
- Environments
- Games as a business
- Game addiction
- Modding
- Simulations
- Music
- Sound
- Narrative
- Characters
- Artificial Intelligence
- Augmented Reality Games
- Game instrumentation
- Evaluating effectiveness
- Game documentation
- Gender issues in games
- Games and the brain

Schedule

The schedule for the class will be published on the web and will be based on the topics of interest to the students.

Disclaimer

This syllabus may not be updated during the semester. Updated information will be published on the class website. If there are discrepancies between the information here and on the website, the website information is considered definitive.

Last updated 11 January 2015