

Center for Talent Development Northwestern University

Fall 2010 – Gifted Learning Links

Instructor: Brian Myers

Course Title: Computer Gaming Academy II

Course Description:

During this course, students will build upon the basic skills acquired in Computer Gaming Academy I in a highly individualized context. They will obtain knowledge and experience of intermediary-level game design techniques, including 3D (parallax and isometric) design, inventory management, multi-agent coordination, advanced level editing, etc. while building 2-3 complete games in a variety of genres. Each student will have the opportunity to present research on the achievements of one of a number of historically significant and innovative game designers, and will be introduced to the object-oriented features of the GML programming language through the implementation of simple scripting elements within the Game Maker environment.

Outcomes:

Upon successful completion of this course, students will:

- a. Develop an advanced understanding of the defining characteristics of digital game genres and a knowledge of current trends in the independent games movement;
- b. Have a strong familiarity with the programming and editing features of *Game Maker*, a familiarity with open source content editing tools such as *Audacity*, *Anvil Studio*, and *GIMP*; familiarity with online sources of game development assets including tiles sets, animation strips, sound effects and themes.
- c. Create original single or multiplayer computer games in at least two game genres.
- d. Develop an online portfolio of original games.

Resources and Materials:

Handouts will be provided each week by the instructor and will serve as the basis for discussion during the next week's class. Sources will include:

Salen, Katie and Zimmerman, Eric. *Rules of Play*. Cambridge: MIT University Press (2004).
Salen, Katie and Zimmerman, Eric. *The Game Design Reader*. Cambridge: MIT University Press (2005).

Game Maker – specific sites:

YoYo Games (www.yoyogames.com)

Video Game Music Archive (www.vgmusic.com)

Spritters Resource (www.spritters-resource.com)

Recommended (but not required):

Hapbgood, Jacob and Overmars, Mark. *The Game Maker's Apprentice*. Berkeley: Apress (2006).

Swamy, Nanu. *Basic Game Design Creation for Fun and Learning*. Hingham, MA: Charles River Press (2006).

Instructor Biography:

Brian Myers has a BS from Northwestern University and an MLIS from the University of Illinois, Champaign-Urbana. He directs Game Maker Academy, an out-of-school educational nonprofit program for youth and teens, and has taught teen-oriented media and game design classes at various institutions around Chicago's North Shore. He has taught at CTD for four years, offering classes in digital media and game development, dynamic web design and Java programming. He speaks and writes frequently about the importance of promoting digital design activities as a strategy for nurturing essential 21st century literacy skills. His Game Maker Academy program was the recipient of a 2008 American Library Association Presidential Citation.

Contact Information:

Evenings/weekends: xxx-xxx-xxxx

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Schedule:

Date(s)	Topic(s)	Activities	Assignments and/or Assessment	Instructional Strategies
10/02/10	Orientation and introductions. Review of material.	We'll review platform mechanics by creating a 2 (or more) level platform game, with animation, gravity, jumping, pickups and enemies.	Read handouts Begin platform project.	Following initial review of requisite skills, instructional strategies will provide for differentiation through open-ended activities and variability in the content and product domains. Students will be encouraged to customize and enhance classroom examples in a way that is both challenging and personally meaningful.
10/09/10	Intro to GML Autonomous agents and game AI.	We'll begin using GML code in a maze project ("Pyramid Panic" from The Game Maker's Apprentice)	Read handouts Complete platform game Begin work on maze game	
10/16/10	Parallax views Isometric views Scaling	Discuss prior week's project. We'll discuss and look at different examples of parallax and isometric perspective projects	Read handouts Complete maze game Begin scaling project	
10/23/10	Parallax views Isometric views Scaling	Discuss prior week's handouts. Review of scaling project; Demonstration and discussion of parallax views	Read handouts. Complete scaling project Begin parallax project	
10/30/10	Parallax views Isometric views Scaling	We'll review our work on parallax mechanics We'll hold a	Read handouts. Complete parallax project Begin isometric project	

		discussion about 3D rendering and look at some of the free and open source applications that are available We'll begin work on our isometric project	(create sprites, textures, backgrounds)	
11/06/10	Defining features of Adventure games. Inventory, information management.	Discuss handouts from previous week. Continue work on isometric project, which we'll develop into a Runescape-style adventure game. Final project proposals due	Read handouts Continue isometric project Describe 2-3 worlds to include in adventure game.	
11/13/10	Adventure games (continued). Games as narrative.	Discuss handouts. Continue work on isometric adventure game.	Continue work on individual adventure game. Customize at least two levels, integrating features of other game genres (shooters, platformers, maze, etc.)	
11/20/10	Adventure games (continued). Summary of Game Maker 3D functions.	Continue work on Adventure game. Open discussion forum and all final projects due.		

CTD Statement on Third-Party Web Sites

Instructors are required to thoroughly review any third-party web sites they intend to use in their courses for inappropriate content. However, because web content continuously changes, CTD disclaims any responsibility for any of the content contained on third-party web sites used in course materials. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.