Level Design for Multi-player Games
ITP 499 (2 Units)

USC Viterbi
School of Engineering

Spring 2018   v.06212017

Objective

Upon completion of the class, the student will be able to analyze a multi-player game for the skills it demands of players and turn that analysis into challenging, balanced multi-player levels.

Concepts

Digging into game software development through level design with a focus on the iterative process and gathering feedback from players during playtest sessions.

Prerequisites	N/A
Instructor	Karen McMullan
Contact	Email: karenmcm@usc.edu
Office Hours	Listed on Blackboard under Contacts
Lab Assistants	Listed on Blackboard under Contacts
Lecture	Thursdays, 7:30-8:30
Lab	Tuesdays, 7:30-8:30

Required Textbooks

Instructor lectures and on-line resources listed on Blackboard.

Website

All course material will be on Blackboard (http://blackboard.usc.edu). Lectures are on Blackboard under Content, and assignments are on Blackboard under Assignments. http://blackboard.usc.edu.
Assignments are to be turned in online via Blackboard.
Students are also required to stay apprised of video game industry news. Free daily industry newsletter (required reading): http://www.gamesindustry.biz

IT Help

Hours of Service: 8AM-9PM; Phone: 213-740-0517; Email: engrhelp@usc.edu

Grading

The following percentage breakdown will be used in determining the grade for the course.

Weekly assignments (15 at 6% each)	90%
Participation	10%
Total	100%

Grading breakdown of weekly assignments:

On time, to spec	30%
Assignment quality	70%

Grading Scale

The following shows the grading scale to be used to determine the letter grade.

A	100-93
A-	92-90
B+	89-87
B	86-83
B-	82-80
C+	79-77
C	76-73
C-	72-70
D+	69-67
D	66-65
F	64 or below

Policies

No make-up exams (playtests) will be offered. If a playtest is missed, students are required to conduct a playtest on their own before the next iteration is due, collecting and processing feedback, per playtest procedures.

Assignments - Assignments are posted weekly under Assignments on Blackboard. Exercises are to be submitted online via Blackboard only. Barring an extended campuswide Blackboard outage, no work submitted by email will be graded. Assignments are due on the dates listed in the syllabus (subject to change during the run of the course). It is the student's responsibility to turn in assignments on or before deadlines as set by the instructor. **If student misses class, the assignment is still due on the due date and can be turned in on Blackboard from anywhere in the world with Internet access.** If absent due to illness, bring written note from medical facility to get exception. However, students missing a playtest, must make up the playtest on their own.

Save your work - You are required to save your projects, levels and builds using a USB flash drive or a website such as http://www.dropbox.com. Keep a copy of all your work. You will not be able to save your work on the ITP lab computers.

Extra Credit - During the second half of the semester, extra credit assignments are available. An extra credit assignment counts the same as a regular weekly assignment, and its grade goes into the assignments portion of the overall grade. A student may turn in up to three extra credit assignments, prior to the end of the last class (before Study Days).

Athletes - If you must miss class due to an athletic event, you must notify instructor in advance of the absence. You are still expected to turn in all work. All **assignments are still due on the due date and can be turned in on Blackboard from anywhere in the world with Internet access.**

Late Submissions – Exercises turn in late **30%.** They may be submitted later for grading, but, due to the cumulative nature of assignments and the steps of the iterative process, earlier assignments will need to be completed before later assignments can be assessed and tested. It is very important to keep up with assignments as they are due. Extensions are granted based on written excuse and are granted on a case-by-case basis only; no guarantee that an extension will be granted.

Make-up policies - To make up for a missed assignment, student must turn in assignment on Blackboard (subject to lateness penalty per above). To make up for a missed playtest, the student must provide a satisfactory reason (as determined by the instructor) along with proper documentation. The student must then conduct a playtest outside of class Make-up exams are only allowed under extraordinary circumstances.

Attendance - Students should notify instructor by email in advance if a class will be missed. Students are expected to come to class on time and attend each class. The course reader is online. Read it. Do the homework online.

Other policies as outlined by the instructor in class.

Changes to this syllabus will be uploaded at need. Students are responsible for being up to date with any and all changes to course policies, assignment due dates and course events coordinated in class, listed here and/or on Blackboard.

Incomplete and Missing Grades
Excerpts for this section have been taken from the University Grading Handbook, located at http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html.   Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) "should only be assigned in unique or unusual situations… for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) "is assigned when work is no completed because of documented illness or other 'emergency' **occurring after the twelfth week** of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks)."

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus,* the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS. Do not share your lab assignments with other students. Do not submit another student's work as your own. Do not look at other students' papers during exams. Do not leave the room during an exam. Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam.

DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Contact info: 213-740-0776 (Phone), 213-740-6948 (TDD only), 213-740-8216 (FAX), ability@usc.edu, http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Emergency Preparedness/Course Continuity in a Crisis

In case of emergency, when travel to campus is difficult, if not impossible, USC executive leadership will announce a digital way for instructors to teach students in their residence halls or homes using a combination of the Blackboard LMS (Learning Management System), teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" assignment that can be completed 'at a distance.' For additional information about maintaining your classes in an emergency, please access: http://cst.usc.edu/services/emergencyprep.html

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Course Outline
Schedule subject to revision during the course of the term.

WEEK 1   Tuesday, January 9th
Level Design & Level Designers
Due   --
Class   Level Design & Level Designers; the role of level designers on a team, how level design compares to game design
Class   Class Survey / Questionnaire
Class   People Intros
Assigned   Assignment #1 – Level Analysis; play and analyze a level that you love or hate and document its particulars

WEEK 1   Thursday, January 11th
Tools
Due   --
Class   Engine Intro; history, choice
Class   Engine Overview; paradigm, interface, best practices
Class   Course logistics
Assigned   Assignment #2 – Tutorial; find, complete, expand and review a tutorial on the game engine

WEEK 2   Tuesday, January 16th
Tools
Due   Present Assignment #1
Class   Discuss assignment #1
Class   Lab
Assigned   --

WEEK 2   Thursday, January 18th
Space
Due   Present Assignment #2
Class   Discuss Assignment #2
Class   Engine Demo; project creation, builds, screenshots
Class   Whiteboxing Demo; Space; volumes, gameplay elements
Assigned   Assignment #3 – Movement benchmarks; create a small whitebox map that showcases types of movement

WEEK 3   Tuesday, January 23rd

Space

Due	Show progress
Class	Lab
Assigned	Assignment #4 – Space benchmarks; create a small whitebox map that showcases compression and release

WEEK 3   Thursday, January 25th
Player Psychology

Due	Present Assignment #3
Class	Discuss Assignment #3
Class	Why People Play; player motivations
Class	Why Games are Compelling; content, progress, competition
Assigned	--

WEEK 4   Tuesday, January 30th
Player Psychology

Due	Show progress
Class	Lab
Assigned	Assignment #5 – Gameplay benchmarks; create a small whitebox map that showcases distinct gameplay elements

WEEK 4   Thursday, February 1st
Gameplay Elements

Due	Present Assignment #4
Class	Discuss Assignment #4
Class	Interactivity; controls, feedback systems
Class	Interactivity; scripting, triggers, physics
Assigned	--

WEEK 5   Tuesday, February 6th
Gameplay Elements

Due	Show progress
Class	Lab
Assigned	Assignment #6 – Combination; create 1 whitebox map that features two elements (space + movement; movement + gameplay; etc.)

WEEK 5   Thursday, February 8th
Game Types

Due	Present Assignment #5
Class	Discuss Assignment #5
Class	Kinds of Multiplayer Games
Class	Level Designer's role revisited
Assigned	--

WEEK 6   Tuesday, February 13th
Game Types
Due   Show progress
Class   Lab
Assigned   Assignment #7 – Combination; create 1 whitebox map that features two elements (space + movement; movement + gameplay; etc.)

WEEK 6   Thursday, February 15th
Playtest
Due   Present Assignment #6
Class   Discuss Assignment #6
Class   They're Playing It Wrong; what to do with feedback, kevlar undies
Class   Playtest and YOU; role of playtest, running a playtest, making it useful

Assigned   --

WEEK 7   Tuesday, February 20th
Playtest
Due   Show progress
Class   Lab
Assigned   Assignment #8 – Combination; create 1 whitebox map that features two elements (space + movement; movement + gameplay; etc.)

WEEK 7   Thursday, February 22nd
Environmental Design & Playtest
Due   Present Assignment #7
Class   Discuss Assignment #7
Class   Unspoken Language; how levels communicate
Assigned   --

WEEK 8   Tuesday, February 27th
Environmental Design & Playtest
Due   Show progress
Class   Lab
Assigned   Assignment #9 – Map Pack; plan/design array of multi-player levels

WEEK 8   Thursday, March 1st
Map Pack
Due   Present Assignment #8
Class   Discuss Assignment #8
Class   Map Pack Design; skills and combinations
Assigned   --

WEEK 9 **Tuesday, March 6th**

Map Pack

Due   Show progress
Class   Lab
Assigned --

WEEK 9 **Thursday, March 8th**

Kick Off Map Pack

Due   Present Assignment #9
Class   Discuss Assignment #9
Class   Assign levels for Map Pack
Assigned Assignment #10 – Level Tearsheet; plan and design level

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WEEK 10 **March 11th – March 18th**

SPRING RECESS

WEEK 11 **Tuesday, March 20th**

Production

Due   Show progress
Class   Lab
Assigned Assignment #11 – First Pass: Whitebox; focus on space

WEEK 11 **Thursday, March 22nd**

Production

Due   Present Assignment #10
Class   Discuss Assignment #10
Class   Set goals for next iteration and identify research items
Assigned --

WEEK 12 **Tuesday, March 27th**

Production

Due   Show progress
Class   Lab
Assigned Assignment #12 – First Pass: Level gameplay; cornerstones of interactions, items, triggered events

WEEK 12 **Thursday, March 29th**

Production

Due   Present Assignment #11
Class   Discuss Assignment #11
Class   Set goals for next iteration and identify research items
Assigned --

WEEK 13 **Tuesday, April 3rd**

Production

Due Show progress
Class Lab
Assigned Assignment #13 – First Pass: Playtest; run at least 5 rounds

WEEK 13 **Thursday, April 5th**

Production

Due Present Assignment #12
Class Discuss Assignment #12
Class Set goals for next iteration and identify research items
Assigned --

WEEK 14 **Tuesday, April 10th**

Production

Due Show progress
Class Lab
Assigned Assignment #14 – Second Pass: Refine space and gameplay; Playtset; run at least 5 rounds

WEEK 14 **Thursday, April 12th**

Production

Due Present Assignment #13
Class Discuss Assignment #13
Class Set goals for next iteration and identify research items
Assigned --

WEEK 15 **Tuesday, April 17th**

Production

Due Show progress
Class Lab
Assigned Assignment #15 – Final Pass: Last changes!

WEEK 15 **Thursday, April 19th**

Production

Due Present Assignment #14
Class Discuss Assignment #14
Class Set goals for next iteration and identify research items
Assigned --

WEEK 16 **Tuesday, April 24th**

Production

Due Final Levels Due!
Class Create & Test Map Pack
Assigned Fix any outstanding problems with Assignment #15 and Map Pack

WEEK 16   **Thursday, April 26th**

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Production

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Due   Final Build
Class   Test showcase build.
Assigned   --

FINALS   **TBD**

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SHOWCASE!

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Due   Present Assignment #15
Class   Showcase!
Assigned   --