

GAME DEVELOPMENT: TEAM STUDIO (GAMES-UT 122-001)

SPRING 2015

GAME DEVELOPMENT STUDIO (OART-UT 1612)

INSTRUCTOR: Robert Yang <ry14@nyu.edu>, office hours by appointment

ASSISTANT:

MoWe 12:30 PM – 3:15 PM 2 Metrotech (MAGNET) ROOM #825

This course reflects the various skills and disciplines that are brought together in modern game development: game design, programming, asset creation, and critical analysis. Classroom lectures and lab time will all be used to bring these different educational vectors together into a coherent whole; the workshop will be organized around a single, long-term, hands-on, game creation project. At the completion of this course, the student will be able to:

- 1) Describe typical work practice in game development.
- 2) Demonstrate competency through actual implementation of code and assets.
- 3) Work with a game engine, and understand the basics of how to build a game in the engine.

MAIN COURSE TOOLS: *(all software is free / or has free student versions)*

(1) A laptop. (2) Unity, free version. (3) Autodesk Maya. (4) SourceTree.

MAIN COURSE TEXTS:

(1) 10PRINT, by Nick Montfort, et al. (2) Jagged Alliance 2, by Darius Kazemi.

LEARNING GOALS: *(practice design, code, and asset creation, as a unified discipline)*

- Iterative prototyping processes and troubleshooting, isolating bugs and problems.
- Code literacy, input and control structures (if / else / for / while), basic OO code patterns.
- Conceptualizing 3D space / raycasting / basic vector math, movement and collisions.
- Basic 3D polygon modeling workflows and considerations, understand 3D as data.

ATTENDANCE: 2+ unexcused absences will lower your grade, and 4 is grounds for an F.

CLASS WEBSITE: github.com/radiatoryang/nyu_studio_spring2015/

To turn-in homework, click "Wiki" on the sidebar, and follow instructions.

WEEKLY ASSIGNMENTS:

- All interactive assignments must be uploaded as a Unity web player + Git repo, and linked on the class wiki in the correct section BEFORE CLASS.
- Weekly journal responses to a prompt: 150+ words on your personal wiki page.

MIDTERM PROJECT: INDIVIDUAL

Prototype a small explorable 3D world with a narrative and at least one "gate"

- you MUST upload the project folder to a public GitHub repository
- you MUST release your playable game to the public in some form

FINAL PROJECT: GROUP

We will work in groups of 3-4 students to build small "roguelike" games.

- you MUST upload the project folder to a public GitHub repository
- you MUST release your playable game to the public in some form
- you MUST have a short gameplay video, paragraph blurb, 3 screenshots, on a webpage
- you MUST *EACH* complete at least one CODE task, ASSET task, and DESIGN task

SCHEDULE (subject to change)

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- 1/26 WEEK 1: introductions, what is game dev, editor interface, exporting**
Homework: read "The Door Problem" by Liz England; build a poetic landscape
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- 2/2 WEEK 2: intro to code, variables, if / else**
Homework: read 10PRINT ch. 10, do code worksheets, build a text adventure world
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- 2/9 WEEK 3: intro to vector math, inputs, intro to Maya + how to Git**
Homework: read 10PRINT ch. 15, do vector worksheets, build a 2.5D treasure hunt game
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- 2/16 WEEK 4: *** (NO CLASS ON MONDAY) *** intro to PhysX physics**
Homework: read 10PRINT ch. 25, build a Rube Goldberg machine + custom models
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- 2/23 WEEK 5: input and physics, !!! BEGIN MIDTERM PROJECTS !!!**
Homework: prototype a working player controller for midterm + character model
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- 3/2 WEEK 6: ***** (NO LECTURE OR LAB, GDC WEEK) *******
Homework: sketch and prototype a 3D world + with working game for midterm
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- 3/9 WEEK 7: crisis management... !!! MIDTERM PRESENTATIONS IN LAB !!!**
Homework: finish and upload and distribute your midterm project
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- 3/16 WEEK 8: ***** (NO LECTURE OR LAB, SPRING RECESS) *******
Homework: read 10PRINT ch. 20, play assigned roguelike + do 2 min analysis presentation
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- 3/23 WEEK 9: what's a roguelike? + intro to proc gen / instantiation / for while**
Homework: read 10PRINT ch. 30, prototype a procedural level generator + custom levels
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- 3/30 WEEK 10: raycasting is the most important thing to learn in this class**
Homework: read 10PRINT ch. 40, prototype a top-down procedural stealth action game
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- 4/6 WEEK 11: !!! BEGIN FINAL PROJECT !!! working as a group**
Homework: read Kazemi pg 1-46, prepare to pitch in lab, prepare controls prototype for final
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- 4/13 WEEK 12: some practical code structures for games**
Homework: read Kazemi pg. 47-82, prepare proc-gen prototype for final
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- 4/20 WEEK 13: in-class playtest, TA guest lecture**
Homework: read Kazemi pg. 83-123, prepare "gameplay complete" prototype for testing
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- 4/27 WEEK 14: in-class playtest, on game feel and "juiciness"**
Homework: read Game Feel ch. 1 + 9, work on your final project and add some juiciness
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- 5/4 WEEK 15: in-class playtest, advanced topics (what a GPU does; intro to shaders)**
Homework: work on your final project, release your final to the public
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- 5/11 WEEK 16: final presentations, pizza party, virtual reality and frontiers**

ASSESSMENT

Students will be graded primarily on demonstrated process and technique. Students will be given grades based on a 100-point scale. Each assignment will be graded on a point scale, and these points will be added up to determine the final grade, according to the following:

98-100 A+ 92-97 A 90-91 A- 88-89 B+ 82-87 B etc.

The following are the components of the grade:

Attendance & participation 25

Homework 25

Midterm 15

Final 35

TOTAL = 100

Attendance & Participation

The attendance and participation portion of your grade is based on the following:

- Your attendance in class and tardiness. Missing more than 2 classes will hurt your grade.
- Participation in group discussions and critiques
- Peer grades and participation in writing group evaluations

Group evaluations

Students will also write an evaluation of each team member at the end of the class. These evaluations will be sent to all group members and to the instructor. They must include:

- a) Two positive observations. Particular skills, behaviors, decisions, or other ways in which a member made a positive contribution.
- b) Two areas for improvement. At least two observations that point out how the team member can change their working style, collaborative approach, or other aspects of their behavior to improve the project and the team dynamic.

STATEMENT OF ACADEMIC INTEGRITY

Plagiarism is presenting someone else's work as though it were your own. More specifically, plagiarism is to present as your own: A sequence of words quoted without quotation marks from another writer or a paraphrased passage from another writer's work or facts, ideas or images composed by someone else.

Statement of Principle

The core of the educational experience at the Tisch School of the Arts is the creation of original academic and artistic work by students for the critical review of faculty members. It is therefore of the utmost importance that students at all times provide their instructors with an accurate sense of their current abilities and knowledge in order to receive appropriate constructive criticism and advice. Any attempt to evade that essential, transparent transaction between instructor and student through plagiarism or cheating is educationally self-defeating and a grave violation of Tisch School of the Arts community standards. For all the details on plagiarism, please refer to page 10 of the Tisch School of the Arts, Policies and Procedures Handbook 2013-2014, which can be found online at: <http://students.tisch.nyu.edu/page/home.html>

ACCESSIBILITY

Academic accommodations are available for students with documented disabilities. Please contact the Moses Center for Students with Disabilities at 212-998-4980 for further information.

New York University
Tisch School of the Arts
Course Syllabus
Office of Special Programs