

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

SUMMER 2015

GAME DEVELOPMENT STUDIO (OART-UT 1612)

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

ASSISTANT: Ansh Patel <aap550@nyu.edu>

TuTh 12:30 PM – 4:30 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: *(all are freely available online)*

(1) 10PRINT, by Nick Montfort, et al. (2) misc. readings

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 3 is grounds for an F.

CLASS WEBSITE: github.com/radiatoryang/nyu_studio_summer2015/

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 CANNOT use the Terrain tool; you MUST model modules in Maya

FINAL PROJECT: GROUP

We will work in groups of 3-4 students to build small (SECRET THEME) 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)

WARNING: This class is VERY fast-paced, we are essentially condensing 1 week of normal class into 1 day of summer class. You will usually get some lab time to start working on your homework, but I generally expect you to spend at least 3 hours for each day's homework.

NOTE: Obviously, doing the homework is the main point of taking this class; this is a class about doing work!... But even if you didn't do the homework, come to class anyway. Missing a day of class, especially during the summer, can be really disastrous for your experience here.

7/7 WEEK 1A: introductions, what is game dev, editor interface, exporting

Homework: read "The Door Problem" by Liz England; build a poetic landscape

7/9 WEEK 1B: intro to code, variables, if / else

Homework: read 10PRINT ch. 10, do code worksheets, build a text adventure world

7/14 WEEK 2A: 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

7/16 WEEK 2B: intro to PhysX physics and paper prototyping process

Homework: read 10PRINT ch. 25, build a Rube Goldberg machine + custom models

7/21 WEEK 3A: physics applications !!! BEGIN MIDTERM PROJECTS !!!

Homework: prototype a working player controller for midterm + character model

7/23 WEEK 3B: modular modeling in Maya, scripting game logic

Homework: sketch and prototype a 3D world + with working gate for midterm

7/28 WEEK 4A: !!! MIDTERM ARCADE !!! instantiation / loops, play research

Homework: read 10PRINT ch. 30, city generator, make final project brainstorm notecards

7/30 WEEK 4B: raycasting is really important !!! BEGIN FINAL PROJECT !!!

Homework: read Scrum primer, prototype final project systems + draft website

8/4 WEEK 5A: playtest; working as a group, practical code structures for games

Homework: read "Working on The Witness, Part 7", prototype final project core game loop

8/6 WEEK 5B: playtest; more 3D modeling techniques, project code review

Homework: read/watch Ben Mathis 3D art demos, iterate on final project core game loop

8/11 WEEK 6A: playtest; game feel and "juiciness", TA guest lecture

Homework: read Game Feel ch. 1 + 9, work on your final project and add some juiciness

8/13 WEEK 6B: what a GPU does, intro to shaders; !!! FINAL CRITIQUE !!!

Homework: release final project to public, finish website, send out press e-mails

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