INTRO TO VR (GAMES-UT 124-001) FALL 2017

INSTRUCTOR: Robert Yang <ry14@nyu.edu>, office hours: MoTu 1-2pm

MoWe 3:30-6:10 2 Metrotech (MAGNET) ROOM 816

This course is an introduction to working with "virtual reality" (VR) and designing for head-mounted immersive media. Classroom lectures and lab time will focus on prototyping novel experiences for VR, culminating in a self-directed final project about VR.

At the completion of this course, the student will be able to:

1) Describe contemporary issues in virtual reality and immersive media.
2) Demonstrate competency in working with VR, through actual working prototypes.
3) Work with a game engine, and understand the basics of how to build a game for VR.

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

(1) A laptop. (2) Unity, free version. (3) Autodesk Maya 2017. (4) USB thumb drive

For this semester, we will focus on "high-end" desktop VR hardware like the Oculus Rift CV1 and the HTC Vive. We won't be covering any mobile VR (Cardboard, Gear)

RECOMMENDED BOOKS:

- Hamlet on the Holodeck, Janet Murray

LEARNING GOALS:

- Iterative prototyping processes and troubleshooting, isolating bugs and problems.
- 3D asset creation and art considerations for VR
- Understanding basic design principles for VR

ATTENDANCE: **message me BEFORE class to be excused…**

3+ unexcused absences lowers grade; 2 tardies = 1 absence; 5+ minutes late = 1 tardy

CLASS WEBSITE: **https://github.com/radiatoryang/fall2017_introtovr**

WEEKLY ASSIGNMENTS: Weekly prototyping exercises, weekly discussions of readings

MIDTERM PROJECT: a VR prototype with motion controller input

FINAL PROJECT:

OPTION A: individually, a major studio / capstone project that relies on VR

OPTION B: in groups of 4, make a substantial VR prototype game / experience

WEEKLY SCHEDULE (subject to change)

W1, 9/4: intro to VR, Unity review
LAB / HW: build a non-VR first person 3D scene

W2, 9/11: using the VR hardware (Oculus CV1, HTC Vive)
LAB / HW: build a simple VR standing scene

W3, 9/18: VR usability guidelines, don't make people vomit OK
LAB / HW: build a terrible VR scene that makes people vomit (in theory)

W4, 9/25: raycasting, simple gaze triggers
LAB / HW: build a basic VR gaze-triggered prototype

W5, 10/2: more about gaze triggers
LAB / HW: iterate on the VR gaze-triggered prototype, make it more complicated

W6, 10/9: [NO MONDAY CLASS] intro to motion controllers
LAB / HW: build a basic VR motion controller prototype

W7, 10/16: object interactions with motion controllers
LAB / HW: iterate on the VR motion controller prototype, make it more complicated

W8, 10/23: form project groups, start final project
LAB / HW: iterate on projects

W9, 10/30: playtest / workshop projects
LAB / HW: iterate on projects

W10, 11/6: 3D modeling basics in Maya
LAB / HW: iterate on projects

W11, 11/13: playtest / workshop projects
LAB / HW: iterate on projects

W12, 11/20: [NO WEDNESDAY CLASS] playtest / workshop projects
LAB / HW: iterate on projects

W13, 11/27: playtest / workshop projects
LAB / HW: iterate on projects

W14, 12/4: playtest / workshop projects
LAB / HW: iterate on projects

W15, 12/11: [TUESDAY IS MONDAY SCHEDULE]
how to record VR video documentation, last playtest and workshop
LAB / HW: finish projects, record video documentation

FINAL PROJECT DELIVERABLE DUE ON 12/18

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 20 Final 30
TOTAL = 100%

Attendance & Participation

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

- Attending and arriving on time to all class sessions is required and expected. This includes all labs, recitations, and critiques. If you will be missing a class due to illness, or unavoidable personal circumstances, **you must notify your professor in advance via email for the absence to be excused**. Unexcused absences and being late to class will lower your final grade. Three unexcused absences lower your final grade by a letter. Each subsequent unexcused absence will lower another letter grade. Two tardies will count as one unexcused absence. Arriving more than 15 minutes late to class will also count as an unexcused absence.
- Participation in group discussions and critiques

STATEMENT OF ACADEMIC INTEGRITY / PRINCIPLE

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.

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.

HEALTH + ACCESSIBILITY

Your health and safety are a priority at NYU. If you experience any health or mental health issues during this course, we encourage you to utilize the support services of the 24/7 NYU Wellness Exchange 212-443-9999. Also, all students who may require an academic accommodation due to a qualified disability, physical or mental, please register with the Moses Center 212-998-4980. Please let your instructor know if you need help connecting to these resources.