

Course Title:

Video Game Design: Think beyond screen and controller

Dates: July 10th – July 15th**Instructor(s):**

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Class time: Monday to Friday: 09:00 AM - 5:00 PM Saturday: 09:00 AM - 12:00 PM**Room:** 824**Course Description:**

In 2014, consumers spent more than \$21 Billion dollars on video games worldwide. Video games, an integral part of our culture, are created by some of the most innovative minds in the technology sector. This intensive game-design course gives students both a conceptual understanding of game design and practical experience in the design and development of games. While much of the commercial gaming industry is exclusively focused on entertainment, game creation and play can also serve as a powerful vehicle for learning, exploration, and collaboration. During this game-creation intensive, students work in collaboration to study, design, and create interactive digital games. Students also visit relevant places where people in Shanghai are developing digital and electronic art in a community environment. The emphasis of this course is placed on creating alternative physical interfaces that can be designed utilizing Arduino microcontroller, sensors and switches in order to create new user experiences. No programming or computer science background is necessary. Students leave the intensive with a functioning game containing their own artwork, including their own interface and controller. Develop your passion for games while learning valuable skills in collaborative design, creative development, and programming.

Course Prerequisites:

Attendance is a prerequisite to participation in this course.

All students are expected to arrive to class on time and remain present for the duration of the class.

Course Learning Outcomes

By the end of this course, students will be able to

- Understand basic principles of game design and user experience
- Understand and apply fundamentals of physical computing and prototyping
- Create interactive objects to rethink traditional gaming controllers
- Work in a collaborative team environment
- Demonstrate confidence in public speaking and presenting to their peers and professor.

Communication Policies

If you have any question out of class, feel free to email instructors(as email address list up. All email inquiries will be answered within 24 hours.

Required and Recommended Material:

NA

Grading/Assessment

Students will be graded on a Pass/Not Pass basis, final grade will be either P (Pass) or NP (No Pass).

Under this grading option, students will receive a final grade of P for work that is clearly passing, i.e., which would earn a letter grade of C or better. For work below this level (i.e., equivalent to C-, D+, D, D-, or F), students will receive a grade of NP.

Your grade will be based on the following:

1. 20% Participation
2. 10% Exercise 1:
3. 15% Exercise 2:
4. 20% Exercise 3: Webcomics
5. 35% Final Project: Website

Presentations and Exercises

Students are expected to complete all exercises during class time and present their work for instructor and peer review.

Students will also give feedback, ideas and suggestions, which will be evaluated as participation.

Late exercises will not be accepted.

Final Project:

Students will design and develop a website consisting of four pages (Home, About, Gallery, Contact)

A successful web site will achieve this objective through the thoughtful use of color, typography, images and graphics, navigation, and layout.

Course Policies

- Attendance is mandatory. Every class builds off the previous one so it is vital to be present for every lesson. Unexcused absences or habitual lateness will negatively impact the knowledge gained from this class. If you are going to be late or absent, please email instructors in advance. If you have an emergency, please let instructors know as soon as you can.
- Recitations and tech Workshops attendance are absolutely mandatory. They are mainly for hands on practices which are important opportunities to get familiar with technologies.
- You are expected to present your work in class. Explaining your work to other people is a great way to better understand the material and answer questions for yourself.
- Ask questions. If you do not understand any material completely, raise up your hand and ask.

NYUSPS Policies

“NYUSPS policies regarding the Family Educational Rights and Privacy Act (FERPA), Academic Integrity and Plagiarism, Students with Disabilities Statement, and Standards of Classroom Behavior among others can be found on the NYU Classes Academic Policies tab for all course sites as well as on the University and NYUSPS websites. Every student is responsible for reading, understanding, and complying with all of these policies.”

The full list of policies can be found at the web links below:

- University: <http://www.nyu.edu/about/policies-guidelines-compliance.html>
- NYUSPS: <http://sps.nyu.edu/academics/academic-policies-and-procedures.html>

Course Schedule

Day 01: Mon July 10	Day 02: Tue July 11	Day 03: Wed July 12	Day 04: Thu July 13	Day 05: Fri July 14	Day 06: Sat July 15
Morning Session:					
<p>Introduction: Review of syllabus and Get to know each other</p> <p>Lecture: GAMES Analog and Digital Tools</p>	<p>Presentations: Students show what they did in the previous exercise</p>	<p>Lecture: INTRODUCTION TO PROCESSING programming and game design using screen and keyboard.</p>	<p>Lecture: WEARABLES</p>	<p>Presentations: Students will show ideas and prototypes.</p>	<p>Lab Session: Students will work on their final projects</p>
break					
<p>Inclass exercise: ANALOG GAMES work in teams and create a game that can be played without any technology</p>	<p>Lecture: INTERACTIVE GAME INSTALLATIONS: beyond the screen and traditional controllers</p>	<p>Workshop: We will discuss various ways physical and screen-based experiences can work together by introducing Processing and how it can be connected to Arduino. (Arduino via Firmata, Makey Makey)</p>	<p>Workshop: Students will learn how to create their own sensors using fabric and making soft circuits. With conductive fabric, Processing and Arduino, clothing can become an interface.</p>	<p>Lab Session: Students will work on their final projects</p>	<p>Presentations: Final Projects Presentations</p>
lunch					
Afternoon Session:					
<p>Workshop: INTRODUCTION TO ARDUINO Students will learn about the Arduino and basic circuit board construction using a breadboard. Through working with buttons and LED's a simple game interface will be made.</p> <p>Inclass exercise: creating a game using buttons and LED's</p>	<p>Workshop: SENSORS. Students will learn about analog sensors and how they can be used as a switch with Arduino code. We will also make sensor from scratch, and work with Arduino to make an interactive toy.</p>	<p>Field Trip: visit to electronics market visit to hackerspace</p>	<p>Lab Session: Students will create teams and work in final projects ideas and will make prototypes</p>	<p>Lab Session: Students will work on their final projects</p>	

Class 01: Mon July 10

Morning Session

Introduction:

Review of syllabus and Get to know each other

Lecture:

GAMES

Analog and Digital

Tools

Inclass exercise:

ANALOG GAMES

work in teams and create a game that can be played without any technology

Afternoon Session

Workshop:

INTRODUCTION TO ARDUINO

Students will learn about the Arduino and basic circuit board construction using a breadboard. Through working with buttons and LED's a simple game interface will be made.

Inclass exercise:

creating a game using buttons and LEDs

Class 02: Tue July 11

Morning Session

Presentations:

Students show what they did in the previous exercise

Lecture:

INTERACTIVE GAME INSTALLATIONS:

beyond the screen and traditional controllers

Afternoon Session

Workshop:

SENSORS.

Students will learn about analog sensors and how they can be used as a switch with Arduino code. We will also make sensor from scratch, and work with Arduino to make an interactive toy..

Class 03: Wed July 12

Morning Session

Lecture:

INTRODUCTION TO PROCESSING

programming and game design using screen and keyboard.

Workshop:

We will discuss various ways physical and screen-based experiences can work together by introducing Processing and how it can be connected to Arduino.

(Arduino via Firmata, Makey Makey)

Afternoon Session

Field Trip:

visit to electronics market

visit to hackerspace

Class 04: Thu July 13

Morning Session

Lecture:

WEARABLES

Workshop:

Students will learn how to create their own sensors using fabric and making soft circuits. With conductive fabric, Processing and Arduino, clothing can become an interface.

Afternoon Session

Lab Session:

Students will create teams and work in final projects ideas and will make prototypes

Class 05: Fri July 14

Morning Session

Presentations:

Students will show ideas and prototypes.

Lab Session:

Students will work on their final projects

Afternoon Session

Lab Session:

Students will work on their final projects

Class 06: Sat July 15

Morning Session

Presentations:

Final Projects Presentations