Fall 9-1-2017

MART 340.01: Principles of Interactive Media

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University of Montana, Missoula

Syllabus | Interactive Media 1, MART 340

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COURSE OVERVIEW

General

The primary goal for this course is to explore the theory and technique of creating interactive experiences. This may include;

- Interactive art systems
- Interactive website design
- User interaction design
- Installation art
- Game design

This course will include a mix of reading, discussion, interactive development, projects, and tests. As this is an intensive course in a developing area, students are expected to be in class and to participate.

Specific for Fall 2017

What is interactivity? What does it mean to create meaningful interactive experiences? In this hand-on course, students will learn how to create interactive installations and environments. Scale and space will be explored with reference to the body, while creating cybernetic systems for real-time and time-based interaction. Software (p5.js, openCV, Max/MSP/Jitter), electronics and physical computing (Arduino) will be covered in a workshop style format, with the goal of students creating physical projects. A variety of input and output mechanisms (edge detection, tracking, capacitance sensors, presence sensors, custom switches, etc), networking and best practices will be covered in workshops. Class discussions will cover readings about interactive art and design, space, installation. Students are free to explore their own ideas/concepts through the lens of this course.

Objectives

Students will gain a vocabulary for interactivity and learn a variety of tools and techniques to create interactive installations, including tracking, edge detection, sensors, basic electronics and physical computing. Students will gain knowledge of different methods to create interactive installations including: installations for 1 person, many people, time dependent or input dependent. Students will understand the difference between reactive, interactive and dynamically changing systems.

Students are expected to bring ideas to explore with these techniques. The goals of the projects are not simply about the successful function of the technical process. The goal is to integrate these technical elements to make work that is about something. This could be a problem, phenomena, story, natural element, or other form of expression. This class is about exploring those on a physical scale, such as the body. Projects will create full scale and dynamic installation using both digital and physical means. These projects will be portfolio-level quality works.

Professor/Instructor

- Professor Michael Musick
- E-Mail: michael.musick@umontana.edu.
- Office: McGill Hall, 232.

Course Websites

- Course GitHub Repo (This git repository holds code examples, an issues board, as well as course Wiki.)
- Direct Link to Course Wiki
- mart340 Slack Channel
  - Slack is a communication tool used in industry, startups, and art teams. We will be trying it this semester as our primary tool of communication for the class. You are **REQUIRED** to participate in Slack and check it regularly. (I would encourage you to download the Slack app for your computer and mobile devices.)

Course Requirements

Time

You should plan to spend 8-15 hours of work a week on homework and coding outside of class time (in this case, the time it takes you to read/watch the weeks content). **This is a very intense course that will require a significant time commitment on your part.**

This means you will need excellent time management skills. Schedule time for this course in your week, or you will not be capable of being successful.

Creativity

You are taking this course because it offers the opportunity to learn coding skills through creative means. Please take the time to be creative in your weekly code assignments. Pushing the boundary creatively will make this course more meaningful.

Cleanliness

Coding is hard. But, messy code, documents, and files will make it more difficult. Try to be as clean and tidy in your organization for this class. When writing code, try to keep it organized, and provide many comments. This will make it easier for the grader, the instructor, and you.

Collaboration

This course will heavily utilize collaboration. You will need to work with your fellow classmates in order to be succesful.

Pre-Requisite Knowledge, Experience, & Technology

There are no specific pre-req's for this course. Instead, you are expected to utilize your previous expertise in coding, content creation, story telling, art, sculpture, sound, music, dance, etc. towards the projects presented in the course.

With that being said, it is suggested that you have taken Creative Coding 1 & 2 (MART 120/220).

Books & Supplies

There are no required texts or supplies for this course. However, you will be expected to be capable of producing projects throughout the course, and this may require minimal financial investments in materials from you. I will work to keep these to a minimum, and to utilize departmental/institutional resources when possible.

Policies

Course Evaluation

Students work and progress will be assessed through;

- Projects
  - These will be assigned throughout the semester and relate to the current topics being discussed.
- Writing
  - You will be expected to produce individual reports/paper for each project completed this semester.
  - You will be asked to submit a number of personal reflection / contribution write-ups throughout the semester.
- Class participation via group problem solving, support, and forum discussions.

Projects

We will have projects throughout the course that are relevant to material from recent content. These are required and you will need to talk about them in your technical reports.

Homework will be submitted via the medium that makes the most sense for the project (i.e. Moodle, GitHub, etc.).

Grades for all assignments will be based primarily on the student's ability to:

1. Demonstrate an understanding of the specific characteristics and integrative capabilities of the assigned topic in your own words and code.
2. Articulate a clear and concise perspective. Cutting and pasting or copying word for word off the Internet will result in loss of points.
3. Present an organized file/program, as well as technical report; including proper and punctual delivery of the assignment files.
4. Demonstrate creativity beyond the expected technical requirements.

IMPORTANT: Assignments handed in after the due date and time will have points deducted for lateness. This will be in addition to any points deducted for content. Those that are uploaded late but within one week of the due date will lose 5% for lateness. For those uploaded after that, the number of deducted points will be at the discretion of the faculty.

Participation

This class will be participatory, you are expected to participate in discussions and give feedback to other students through on-line participation with their projects.

Final Project

This course will culminate with final projects. You are expected to push your abilities to produce something that utilizes what you have learned in the class that is useful in some manner to yourself or the world.

Required: Please note, the final project is required. Failure to complete a final project will result in a letter grade of F for the course. This is regardless of the students current grade standing in the course. There are no exceptions to this policy.

Grades

Final Grades

Grades will be determined according to the following breakdown:

- Sketches 30%
- Show & Tell presentations: 5%
- In-class discussions (readings & roundtable feedback), critiques: 5%
- Self-assessments and roundtable presentations: 5%
- Project 1: Change a Space: 10%
- Project 2: Midterm: Interactive Installation 20% (5% Prototype, 15% Midterm)
- Project 3: Final Project: 25% (10% Prototype, 15% Final)

Letters are assigned according to the following final course percentages:

Grade	% Range
A	93-100
A-	90-93
B+	87-90
B	83-87
B-	80-83
C+	77-80
C	73-77
C-	70-73
D	60-70
F	0-59

Project Grades

For each project your grade will be assessed upon the following:

- Principles
- Creativity/Thoughtfulness
- Craft

Below gives you a sense of the spectrum, giving examples for high, middle and low grades.

Please note:
A letter grade of "C" is an average grade. Average is not bad. It means average. Most of us are average, in some way. An average level of work is being done. It does not mean perfection. It means that the work still has room to develop at it's current state. It also means that the work has noticeable achievements and evidence of some acquisition of knowledge. I look at this on an individual basis as well as across the whole class.

Please read examples of each assessment point below to get an idea of my expectations. Note that a "B" is between Satisfactory and Superior.

- **Principles:**
  - Superior - A - Your work shows evidence and understanding of programming concepts discussed in readings, lectures, and exercises, as you bend them to your will.
  - Satisfactory - C - Your work shows evidence of concepts and is still developing an understanding of course material. You understand some aspects, but aren't utilizing them fully. Usage is cursory. Keep pushing your work and review the material to revisit how you can integrate it to your work.
  - Unexceptable - D/F - Your work shows some evidence of concepts discussed, but lacks key understanding, confidence, robustness and authority. Aspects are lacking. Reviewing course material is required. Ask questions in class. Manage your time better.
- **Creativity, Thoughtfulness:**
  - Superior - A - Your work demonstrates your personality and a great depth of engagement with the material. It's extremely evident that you are thinking, exploring, playing and taking risks. You are creating wonderful experiences.
  - Satisfactory - C - You are executing your ideas, but more time is needed to consider more deeply about what is conceptually and physically happening. They are barely getting off the ground. Or have large bits that are broken. Do more research and exploring. Play.
  - Unexceptable - D/F - Your work is so straightforward that it's flat. It's barely coded (or badly broken). It's copied from elsewhere and not expanded upon. Question and Iterate your work to push your it further. Read. Play. Get off the lame track and get inspired.
- **Craft:**
  - Superior - A - Your work shows delicate care and consideration to presentation and professionalism. You code is neat, clean, commented and structured. Your friends consider you "Type A." Your style is evident.
  - Satisfactory - C - Your work shows the birth of your ideas, but further time and iteration can really push your work to excel. Your code is there, but messy. It can be simplified and made cleaner. What you put into it, is what you get out of it. Practice makes perfect!
  - Unexceptable - D/F - Your work is rushed and looks like it was done on your train-ride in or the night before. Make your work something you are proud of. You are here to build your portfolio after all, aren't you?

Attendance

- Attendance will be taken at the beginning of every class
- Critique days are mandatory. No exceptions. No tardiness.
- Contact me in advance if you will not be in class. (email is preferred)
- Unexcused absences will affect your grade
- One absence is allowed; after that, your final overall grade for the course will drop by 2.5 pts out of 100 for each additional absence.

Plagiarism & Cheating Policy

Students are expected to adhere to academic conduct policies of the University of Montana as explained in the Student Conduct Code. All students should act with personal integrity, respect other students' dignity, rights, and property, and help create and maintain an environment in which all can succeed.

Dishonesty will not be tolerated in this course. This includes, but is not limited to, cheating on tests, cheating on assignments, fabricating information or citations, having unauthorized possession of examinations, submitting work of another person or work previously used, or tampering with the academic work of other students.

Plagiarism is the presentation of the work of another without acknowledgement. As defined by the University of Montana's Student Conduct Code, plagiarism is "Representing another person's words, ideas, data, or materials as one's own." Students may use information and ideas expressed by others, but this use must be identified by appropriate referencing.

Students who cheat or plagiarize will receive academic sanctions, which may include an "F" grade on the assignment, examination, and/or in the course. Students will also be reported to the Dean of Students for possible further disciplinary action.

Using Code Found Elsewhere

It's super easy to find code online. If you use code from elsewhere (which you will at times), I expect you to site the work and author, as well as to comment each line, as to what each line does programmatically. Do *not* summarize several lines of code from a high level (ie, TV Guide). I expect you to comment each line on a granular level. In addition in these cases, I am also looking for significant modification of the code, for you to enact your own ideas and to experiment heavily. Significant modification means beyond variable name and value changes. It's bending these concepts to your idea, especially graphically. It's not a copy and paste job.

Also, never more than 40% of your code may be supplied from elsewhere. Period.

If you use code from online, whether for inspiration, modification or reference, I expect to see a link in your comments from where you got the code and who wrote it. Otherwise it will be considered as plagiarism, and you will fail the assignment. The code must have a reference, along with URL and be commented out LINE BY LINE.

Students with Disabilities

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. Students with disabilities are encouraged to plan ahead and can contact Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154, or call (406)243-2243. I will work with you and Disability Services to provide an appropriate modification.

Changes to the Course

I reserve the right to change the intended content of this course throughout the semester. This may be done to adjust for the speed of the class, to better meet educational goals, or to account for changes in technology.