RE-DESIGNING ROBOTS

INFO 4410, 5410, 6420 / CS 4754
FALL 2021

This course provides a context to learn how we can re-design interactions with robotic systems. Students will be given the opportunity to learn basic design skills such as using an idea log, and techniques for analyzing and prototyping human robot interactions. This class follows a studio model. This means that relevant knowledge is created rather than disseminated.

This course will require students to build a physical robot using basic mechatronics skills (e.g. Arduino). The "robot" can be very simple, and remotely operated, but students are required to be fluid in hardware building, rapid prototyping, and programming. Focus of the class will be on designing the interaction with the robot through experimentation with a physical system.

Students will also have to purchase materials needed for building a robot, therefore every student has to expect ~$200 in expenses.

INSTRUCTORS

Malte F. Jung - Assistant Professor in Information Science - mfj28@cornell.edu - 220 Gates Hall
Office hours: TBD

Johan Michalove - PhD Student in Information Science -
Office hours: TBD

TIME AND LOCATION

Mondays:	1:30pm - 4:30pm	Phillips 407
Wednesdays:	9am-11am & 2pm-4pm	Rhodes 100

COURSE GOALS

- Be able to effectively use an idea log for developing and communicating ideas
- Be able to communicate through sketching, both in a formal capacity as well as in real-time, facilitation style
- Be able to utilize a broad range of interaction prototyping techniques
- Be able to use video interaction analysis to investigate interaction issues

GRADING AND EVALUATION CRITERIA

In this course we only offer two grades: one for passing (A) and one for failing (F). The rationale is that by using essentially a pass/fail structure, we can encourage students to take more risks in their design explorations.

To get a passing grade in the class, students have to perform at least satisfactorily across our evaluation criteria.

Evaluation Criteria:
- 70% - Design Projects (This includes prototypes, idealogs, presentations, and studio reviews)
- 20% - Class Participation
- 10% - Reading Reflections

SCHEDULE

Date	Class	Topics	Projects
Week 1			**DP1**
Mon, Aug 30th	Course Introduction		DP1 start
Wed, Sep 1st	Studio Review		
Week 2			**DP1**
Mon, Sep 6th	Labor Day - No Class		
Wed, Sep 8th	Project Presentations		DP2 finish
Week 3			**DP2**
Mon, Sep 13th			DP2 start
Wed, Sep 15th	Studio Review		
Week 4			**DP2**
Mon, Sep 20th			
Wed, Sep 22nd	Studio Review		
Week 5			**DP2**
Mon, Sep 27th			
Wed, Sep 29th	Project Presentations		DP2 finish
Week 6			**DP3**
Mon, Oct 4th			DP3 start
Wed, Oct 6th	Studio Review		
Week 7			**DP3**
Mon, Oct 11th	Fall Break (Oct 9-12) - No Class		
Wed, Oct 13th	Studio Review		
Week 8			**DP3**
Mon, Oct 18th			
Wed, Oct 20th	Studio Review		
Week 9			**DP3**
Mon, Oct 25th			
Wed, Oct 27th	Studio Review		
Week 10			**DP3**
Mon, Nov 1st			
Wed, Nov 3rd	Studio Review		
Week 11			**DP3**
Mon, Nov 8th	Spring break, no class		
Wed, Nov 10th	Studio Review		
Week 12			**DP3**
Mon, Nov 15th			
Wed, Nov 17th	Studio Review		
Week 13			**DP3**
Mon, Nov 22nd			
Wed, Nov 24th	Thanksgiving (Nov 24-28) - No Class		
Week 14			**DP3**
Mon, Nov 29th			
Wed, Dec 1st	Project Presentations		DP3 finish
Week 15			
Mon, Dec 6th	Last Class