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design studio one

shaping interactions + experiences
through human-centered design methods.

"A designer is an emerging synthesis of artist, inventor, mechanic, objective economist, and evolutionary strategist." — R. Buckminster Fuller

"Fundamentally, interaction design is about how people relate to other people and how products mediate those relationships. It matters little whether the product is a document, an artifact, a computer or a computer program, a service, a business activity, or an organizational environment. All of these classes of products and their specific families of products are open to design thinking that is based on facilitating the relationships among people to reach specific goals and objectives." — Richard Buchanan

Syllabus

About this Studio

Design is where many disciplines comes together to advance the needs and wants of people and world systems in positive, balanced, and just ways. Design is at the core of all human advancement and manifests itself in countless ways: the development of a country's education plan or the decisions a company makes in building a new factory, the form of a new mobile device and its purpose in life, or how a building looks, functions, and fits into a broader fabric. These are all the result of thought, consideration, planning, intent, arrangement, and action of groups and individuals on how they believe their built world should be shaped.

One key aspect of design is the influence designers have over the interactions and behaviors of people in their environments. Interaction design is a network of disciplines that serve as facilitators amongst those who are involved in shaping the designed world: technologists, anthropologists, healthcare providers, transportation services, educators, architects and designers of all types, anybody can play in this space. It is fundamentally transdisciplinary, breaking down boundaries and using a holistic design approach to shape human ecologies.

This course introduces students to the fundamentals of design practice and how technology can be a significant factor in shaping the built world around us. Students will be introduced to basic design research which will be built upon in subsequent electives. Students will also become familiar with the design process which has no clear pathways or absolute solutions, balancing conflicting factors and somehow coming out the other end with something new. Everybody in this studio is encouraged to take the 'design disposition' into whatever field they pursue, for design in its broadest sense is an action-oriented liberal art that appears just about everywhere and can affect profound change for the greater good.

I expect each student by the end of this course to be equipped with both practical skills of making, interpersonal skills that come from group interactions, and a particular disposition associated with human-centered and holistic design practice, marked by design agency, intent, and invention. These skills and characteristics will serve you in your professional, personal, civic, and interconnected lives.

Fall 2016	9 Credit Hours	Alexander R. Wilcox Cheek	alexcheek@cmu.edu
Monday and Wednesday	No Prerequisites	Assistant Teaching Professor	www.arwc.xyz
10:30 am – 11:50 am	A required course for the	Information Systems	twitter @arwcheek
Studio 1030 & Mac Lab 1032	Information Systems major	Office 2155 (Door is Open)	

Objectives

Learning objectives are mapped to the grading rubric in order to demonstrate how each one is evaluated.

- ① To develop a command of the **design process** towards the design of interactions.
- ② To **engage with communities** of people to understand latent and expressed needs and desires.
- ③ To develop an approach that **balances intuition with research insight**.
- ④ To develop abilities in **translating research findings** into focused design outcomes.
- ⑤ To develop **lateral thinking** abilities through ethnographic research and design inquiry.
- ⑥ To build **concept development abilities** through individual and group design activities.
- ⑦ To build and develop the most fundamental of design activities: **making and prototyping**.
- ⑧ To develop **critical thinking** through design criticism, evaluation, and written work.
- ⑨ To develop and practice **communication skills** in presenting work verbally and visually.

Design Studio 1: Shaping Interactions and Experiences

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Enrollment	This course is the first introduction of design and design research to students majoring in Information Systems. It is required to be taken during the sophomore year or upon transferring into the program. While it is open to all students, the course has been developed to focus on the concerns of I.S. students and establish a foundation for future I.S. courses.					
Text and Materials	<ul style="list-style-type: none">↗ <i>Universal Methods of Design</i> by Hanington, et al. ISBN 978-1592537563↗ Orange Design 8×10 Gridded Sketchbook↗ Staedtler Triplus Fineliner Pens 10 pack↗ Sketch App 3 for Macintosh					
Evaluation	Generally speaking, projects are evaluated on research (evidence that you have conducted a spectrum of research and turned it into interpretations and models); ideation and concept development (strength of the idea and how well it responds to the research or insight; how grounded and relevant the concept direction is); and implementation and validation (attention to detail, professional presentation, validation with user communities and improvements as needed). The course rubric details evaluation criteria for each project.					
	15%	Interactive Cube	15%	Ambient Device	100%	Final Grade
	15%	Airport Experience	30%	No Brief		
	15%	Miele Interface	10%	Engagement		
Attendance	Attendance is taken completely at random. Aside from extenuating circumstances, my general policy for all students is clear: three absences will result in the loss of a final letter grade; six absences will result in a failure. Grades are not discussed over email (Family Educational Rights and Privacy Act). Extensions and incomplete course grades are generally not granted without prior arrangement with the academic dean or your academic advisor.					
Expectations	Please maintain good communication with me throughout the course. I am here to help each student achieve the learning objectives of the course. I will put in as much time in as you are willing to put in yourself. 9 credit hours means that for every hour spent in the classroom, two hours of work is expected outside.					
	The design studio is shared with other classes. Please keep the room clean! Return supplies to the supplies cabinet and your work to your assigned drawer. Make sure the tables are ordered, clean, and clear when you leave the room.					
	Please do not multi-task with other work, email, texting, or web browsing. Evidence that you are not fully engaged in the class will be reflected in your participation grade.					
Extracurricular	Pinterest is a great resource for designers of all kinds. Get an account and start pinning! Students are also encouraged to take advantage of cultural activities and architectural landmarks in Qatar like mathaf: arab museum of modern art, Museum of Islamic Art, Richard Serra's two installations, Souq Waqif, Jazz at Lincoln Center, and whatever else is fun and interesting.					

Course Flow

Fall 2016 Monday and Wednesday, 3:00 pm – 4:20 pm, Studio 1030 and Mac Lab 1032

Introduction

Mon, Aug 22	Syllabus Review & Welcome ACTIVITIES: Wallets and Handbags: Designing for Others. Team up with a classmate for this rapid activity. Each of you take out your wallet or handbag. Explain to your teammate what uses it serves, what you like and what you dislike about it, and how you wish it could be better. Explain the contents to the other person and degrees of importance. Listener, sketch what they're describing and take notes. Individually, six to eight minutes conceptualizing better, more user-designed wallets and bags. Proposals can be incremental improvements or entirely new concepts.
Wed, Aug 24	HOMEWORK FOR TODAY: Effective and Ineffective Show-and-Tell. Bring in two objects of design, one that is useful and functional, the other that is flawed in some way. We'll share our selections as a class. Also, please complete the What Do We Prioritize? activity. IN-CLASS ACTIVITY: Summer Vacation: people, activities, interactions. 3 storyboards with a partner. IN-CLASS VIEWING: TED Talk: David Kelley, "Creative Confidence"

Interactive Cube

Mon, Aug 29	PROJECT ONE: Using materials of your choosing, create a physical cube that elicits the user to turn it, rub it, and squeeze it. Things to think about • human factors & ergonomics (how it feels in a user's hand; how grippable it is; how it relates to the human proportion) • how it looks (it should be inviting, calling a user to come pick it up) • how engaging it is (is the user surprised somehow? do they smile? do they continue to play with it or do they quickly lose interest?) • how the three interactions are elicited (how do you cue the user? through buttons? weight distribution? sounds? colors? textures? patterns?) • overall integrity (your final cube should be structurally sound, clean crafted, and be of one complete thought rather than a patchwork of ideas). FOR TODAY: Bring in lots of different materials from many sources — fabrics, foams, buttons, threads, noisemakers — anything that's cool and can be torn apart.
Wed, Aug 31	Studio Day — Prototyping
Mon, Sept 05	Studio Day — Prototyping
Wed, Sept 07	Studio Day — Refining
Mon, Sept 12 & Wed, Sept 14	Eid Al-Adha Holidays 🌙
Mon, Sept 19	PROJECT DUE: Submissions and Critique

Airport Flow

Wed, Sept 21	LECTURE + SLIDES: Designing for Service and Human-Centered Design Research CLASS ACTIVITY: Directed storytelling with partners; bring <i>Universal Methods</i> to class. PROJECT TWO: Teams of 3 to 4 will examine and offer proposed redesigns for the Qatar Airport. Your goal is to enhance the flow and quality of experience for the stakeholders. You will need to address both the intangibles (the process and procedures), as well as the tangibles (the physical environment, communication, products, and people). Each group needs to employ three research methods: 1 AEIOU set; 2 directed storytellings that inform 2 personas, and a third of your choice. Communicate these ideas through diagramming, photos, modeling and prototyping, whatever would be appropriate and effective. Evaluation is based on quality and originality of your concept, use of research methods, the relationship between the methods and the concept, and the pitch.
Mon, Sept 26	CLASS ACTIVITY: The CMU Improv Theater Studio Day — Bring in as much documentation from your observations as possible including photographs, diagrams, and notes. All this material will be used to begin group ideation.
Wed, Sept 28	Studio Day — Group Work
Mon, Oct 03	Studio Day — Group Work
Wed, Oct 05	PROJECT DUE: Submissions and Critique

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Miele Interface	Mon, Oct 10	LECTURE + SLIDES: User Interface Design
	Wed, Oct 12	PROJECT THREE: Conduct a thorough redesign of the Miele WT 945 s washer/dryer control panel. Scrap the existing interface and create a touchscreen version (but you must maintain the original proportion). Nothing can be dropped but everything is fair game for redesign. Do a load of laundry at home and document the process. How can the overall user experience be taken beyond the existing Miele panel? Begin in your sketchbook with a list of functions, notes, diagrams, scenarios of use, and sketches. Then, pull your strongest concept from the sketchbook and build a paper prototype with tape, markers, printed iconography, and more sketching. Finally, build out a finalized set of multiple screens in Sketch 3. The final set should show a clear path of interaction. Save + submit everything!
	Mon, Oct 17	Studio Day — Sketching and Prototyping
	Wed, Oct 19	Studio Day — Introduction to Sketch App
	Mon, Oct 24	Studio Day — Refinements
	Wed, Oct 26	PROJECT DUE: Submissions and brief project recap (no critique) CLASS ACTIVITY: Gestures and cardboard prototypes!
Ambient Device	Mon, Oct 31	LECTURE + SLIDES: Calm Technology PROJECT FOUR: Conceptualize and prototype an ambient information device for people's homes. Design an unobtrusive object that lives in the ambient space of a home and provides information in subtle ways, without the need for direct user interaction. Ambient space includes the light, acoustics, and the air of a space — that which is in the periphery of an occupant's attention. Assume that the device will be connected to the internet and consider designing for human efficiency, productivity, health, or safety. Sketch the device in context (over a photograph of your intended space) with callouts that explain its use. Develop one gesture and one voice command with which the user can gain a secondary level of information. Third, create a paper prototype of the device. Submit your concepts to roughly conform to the template provided.
	Wed, Nov 02	CLASS ACTIVITY: Sketching for industrial and product design Studio Day
	Mon, Nov 07	Studio Day
	Wed, Nov 09	PROJECT DUE: Submissions and Critique
No Brief	Mon, Nov 14	PROJECT FIVE: Groups of three or four will coalesce around a theme, will explore that theme, and develop and design an outcome deeply rooted in research, prototyping, and validation. Outcomes will be determined by the space defined by the group. Your deliverables can be in the form of a service where you're addressing a pathway through a broader set of systems or a user experience where you're more focused on the relationship between object and person.
	Wed, Nov 16	Studio Day — Planning and Exploring; Practicing Research Techniques and Methods
	Mon, Nov 21	Studio Day — Research
	Wed, Nov 23	Studio Day — Development and Validation
	Mon, Nov 28	Studio Day — Finalization
	Wed, Nov 30	PROJECT DUE: Presentations and Submission. Documentation to include research, photographs, whiteboarding and ideation, direction, and a comprehensive explanation of design outcome.