ADVANCED METHODS IN HCI (HUMAN COMPUTER INTERACTION)

CS 690A- SPRING 2019

COURSE OVERVIEW

Prof. Narges Mahyar

Slides from Prof. Joanna McGrenere and Dr. Leila Aflatoony
*Includes slides from Prof. Karon MacLean and Jessica Dawson

INSTRUCTOR

Narges Mahyar

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Office hours: by appointment

Background:

HCI, Information Visualization, Social Computing, Digital Civics, Crowdsourcing, and Design Thinking.

TA

Pooya Khaloo

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Background:

HCI, Virtual Reality, Interactive Computing, Machine Learning, Digital Civics, Crowdsourcing and Social Computing.

ACKNOWLEDGMENT

Special thanks to **Prof.Joanna McGrenere** (UBC) and **Dr. Leila Afltoony**, whose course materials I will use, adapt, and change for this course.

TODAY

- Brief overview of the course, and who it's for - 20min
- Icebreaker - 10min
- Design Thinking Activity (teams of two) - 30min
- Q&A about the class - 10 min

If you haven't already:

- talk to me after class if you have registration issues

LEARNING GOALS FOR TODAY

- Be familiar with the course website and how to get access to the course materials
- Understand the course expectations in general
- Understand the basic principles and stages of a human centered approach to design

COURSE OVERVIEW

The role of design for crafting appropriate systems that truly meet people's needs, abilities, and expectations.

This course covers the theories and concepts important for all professionals and researchers that design interactive technology for human use.

This course requires in-depth engagement of people throughout the design process in order to develop interactive technologies that fit human needs and capabilities.

The course adopts a human-centered design (HCD) approach and teaches a highly iterative process called design thinking.

TOPICS COVERED

- Design thinking
- Human centered design
- Filed studies
- Qualitative data analysts
- Establishing requirements
- Ideating
- Prototyping
- Testing

DELVERABLES

- Weekly ‘researcher journals’ to critically reflect on the readings.
- New methods are introduced about every week that you work through on their own or with a small team (homework) and “present” the outcome of applying the method in the context of a project to the rest of the class in a design critique, approximately every other week.

HOMEWORK BEFORE NEXT CLASS – PART I

- Familiarize yourself with the course website
  - **http://groups.cs.umass.edu/nmahyar/advanced-hci-spring-2019/**
    - It provides a fuller introduction to the course
    - Get onto Piazza
    - Take note of deliverables on schedule page
    - Researcher Journals
      - If you have not done journal entries for readings #1 and #2, **you have time until midnight Wednesday**

COURSE COMPONENTS

Classes

- ~ 30 min lecture, 30 min activity, 15 min discussion

Participation

- Attendance, classroom activities, discussions, peer review

Researcher journal

- Pre class preparation on readings

Project milestones ~6

- some individual, most group-based
- most build on one another

EXPECTATIONS

1. Attend all classes.
2. Do assigned prep before class.
3. Be a considerate team member and do your share of the work, well and on time.
4. Abide by the university academic honesty guidelines.

GRADING SCHEME

component	weight	type
Researcher Journal (pre-class preparation on readings)	15%	Individual
Participation (in-class activities, discussions, peer review, and attendance)	15%	Individual
Project (approximately 6 milestones/design critiques)	70%*	~50% group, ~20% individual
Total:	**100%**	
Individual:	~50%	
Group:	~50%	

* I am still working on some of the milestones.

COURSE COMMUNICATION

1. **Website: http://groups.cs.umass.edu/nmahyar/advanced-hci-spring-2019/**

Particularly for schedule / prep information

2. Discussion group (Piazza)

For anything relevant to larger group, including questions. You can create your own discussion post

3. Reflection (Piazza): piazza.com/umass/spring2019/compsci690a

Researcher Journal

4. Instructor confidential (email):

Personal (illness, etc.)

WHAT KIND OF A CLASS IS THIS?

- Research-focused
- Project based and interactive: hands-on
- Group-oriented: team-based learning practices
- Many strange and unfamiliar new skills
- Much less coding than other CS courses, but you need to deliver a working prototype
- Heavy demands on your ingenuity and your people skills

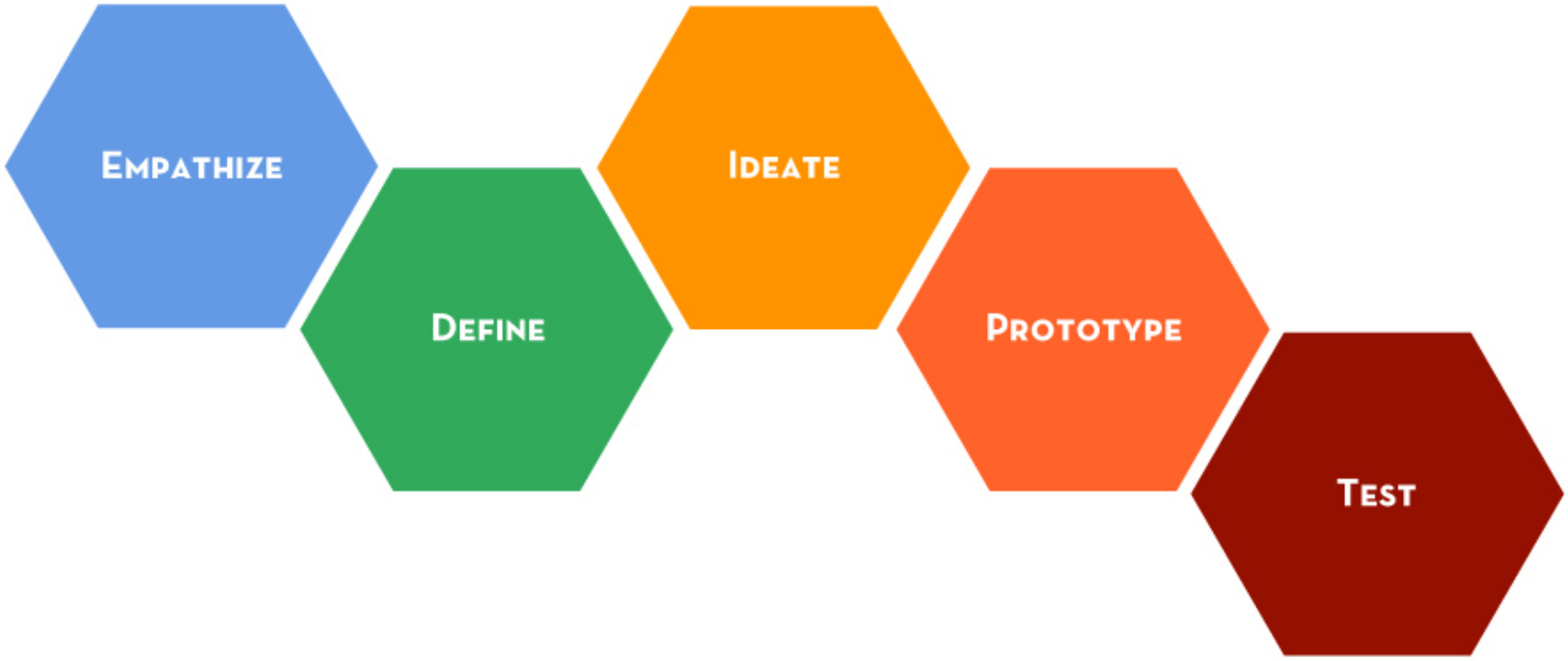
ICEBREAKER [5-10 MIN]

State your…

- Name, department
- Other background [e.g., if your background is different than your current department]
- One thing you hope to get out of this class

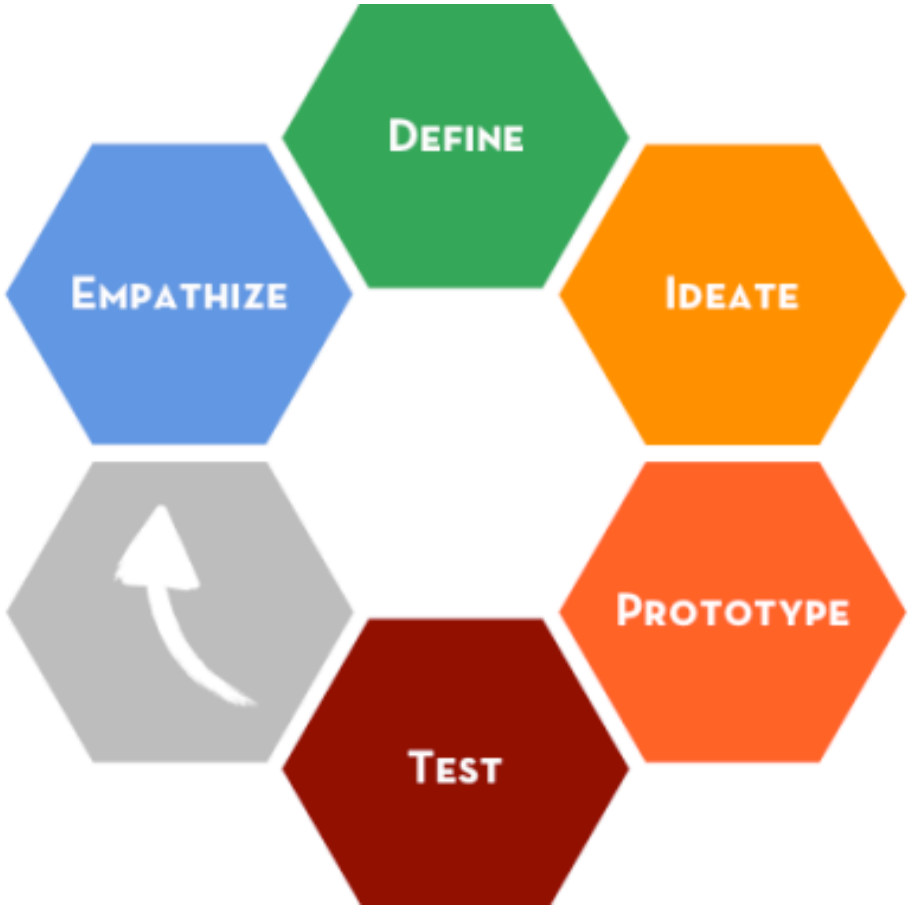
… all in 10 seconds or less. ☺️

DESIGN THINKING



d.school, stanford

AN ITERATIVE PROCESS



HUMAN-CENTERED DESIGN (HCD)

'DESIGNING FOR PEOPLE'

Is a design framework that develops solutions to problems by involving the human perspective in all steps of the problem-solving process.

(Wikipedia)

Is the process of ensuring that people's needs are met, that the resulting product is understandable and usable, that it accomplishes the desired tasks, and that the experience of user is positive and enjoyable.

(Norman, The design of everyday things)

DESIGN THINKING VS. HCD?

- Differences are not clear cut
- Conceptually very similar
- Design Thinking comes from a design tradition and can apply to any design (not specific to interactive technologies)
- HCD comes out of a more technology-centered tradition (first **user**-centered design)
- **Design Thinking has a stronger emphasis on solving the right problem and ideating than HCD**
- Can be confusing: Norman calls Design Thinking to be a Human-Centered Design **Process**

NOW …

Design Thinking Activity

Link to the video:
https://dschool.stanford.edu/resources/virtual-crash-course-video

https://stanford.io/2R4Fs8c

HOMEWORK BEFORE NEXT CLASS – PART II

We watched the video up to …

To do List:

- Watch the rest of the video at home
- Complete the prototype and test stages at home
- Post a photo of your prototype to the Piazza discussion before next class

FIRST DAY SURVEY

https://bit.ly/2T7QJGo

Q&A