HCI and Design

SPRING 2016

Topics for today

- Introductions
- Course overview
- A (brief) historical perspective of HCI

Introductions

- Nicki Dell
  - Ph.D. University of Washington (Seattle)
  - Research: designing, building, and deploying systems for under-served populations (in developing countries)
  - New to NYC and Cornell Tech
  - Fun fact: From Zimbabwe

Introductions

- ***Awesome*** TAs: Zaid Haque (MS) and Lei Shi (PhD)

- **Zaid:** In-class activities, assignments, grading, answering questions, etc.
- **Lei:** Project support, office hours, project grading, answering project questions, etc.

Introductions

- Your turn!

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Course Overview

Course Goals:

- Learn basic/common HCI tools and techniques
- Condensed and accelerated version of core concepts
- Focus on HCI "practice" – learn ***practical*** tools and techniques
- What you need to know to be able to do HCI and Design in the real world (as an engineer, UX researcher, entrepreneur, etc.)
- Special focus on "Design"
- Introduction to current HCI topics that you need an understanding / working knowledge of
  e.g., mobile/ubiquitous computing, social computing, security and privacy, visualization, crowdsourcing, accessibility, computing for global development, etc.

Course Overview

Human-Computer Interaction (HCI)

- Weeks 1-3, 7 onwards
- Nicki

Design – Visual and Interactive

- Weeks 4-6
- External lecturer

Course Overview

Lectures

- Tuesday/Thursday 11-12.15
- Lecture ~40mins (Nicki)
- In-class activity ~15mins (you)
- Discuss assigned readings ~20mins (you)
  - Group of 2 students to lead the discussion of each topic
  - Brief summary of material and list of ~5 discussion topics
  - **Everyone**: read/watch the assigned material before class and come ready to discuss it

- I expect you to attend class, show up on time, read/watch the material before class, focus on content (not on Facebook)

Course Overview

Course website:

http://nixdell.com/classes/HCI-and-Design-Spring-2016/

Has links to:

- Course Calendar
- Readings
- Lecture slides
- Assignment descriptions and due dates

Course Overview

Course communication: Slack!

- Channel: tech-hci-2016.slack.com
- Sign up using your Cornell ID
- Please use slack instead of email if at all possible!

Office hours:

- Nicki - Tuesday/Thursday, 12.15-1pm, Baron
  - Come and talk to me!
- Lei – Monday/Wednesday, 11-11.45am, Baron

Course Overview

Deliverables and grading (may change…)

- Assignments (30%)
- Readings and discussion (10%)
- In-class activities (15%)
- Project (45%)

Project

- Hands-on experience with HCI and Design
- Ideally: Design for populations different from you!
  - Children
  - Disabled people
  - Poor people
  - Sick people
  - Different cultures, languages, backgrounds
  - etc.

Project

- Teams of two
  - (Solo and groups of three possible with permission)
- Can I work on a project that I'm doing for another class? e.g., startup studio, CM specialization project, etc.
- Yes, but...
  - Must be sufficiently focused on HCI/Design
  - Higher expectations
  - Come and talk to me about it

Project

Dates (all on class website)

- Today: Initial discussion of project ideas and teams
- 2/11: Finalize teams, work on idea/plan (in-class)
- 2/18: Written proposal due
- 4/7: Midway presentation (in-class) and written report due
- 5/5: Final presentation (in-class)
- 5/10: Final written report (paper) due

Course feedback

- I like feedback
- Cornell Tech is new and we want to do things differently
- I am new to Cornell Tech
- Help me make the class better

- **If you don't tell me, I don't know ☺**

Course Overview

Questions?

What did I forget?

Quick Activity

Assignment 0: What do you want out of this class?

Online (preferred) http://bit.ly/1SbvFKi

Or on paper…. because typing on a small keyboard sucks ☺

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What is HCI?

Association for Computing Machinery (ACM) definition:

Human-computer interaction is a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them.

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Association for Computing Machinery (ACM) definition:

Human-computer interaction is a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use ***and with the study of major phenomena surrounding them***.

Major phenomena:

- Health, finance, education, communication, social interaction, crisis response, global development, security and privacy, agriculture, and many more...

What is HCI?

- Understanding and critically evaluating the ***interactive technologies*** people use and experience.
- Understanding ***human*** practices and aspirations. How interactions evolve as people appropriate technologies, as their expectations and skills develop, as they articulate new needs, interests, visions and agendas.
- Understanding how activities are embodied, elaborated, and limited by current infrastructures and tools.
- Understanding human practices and activity as requirements and design possibilities.
- Exploring design spaces and creating new systems, devices, and interactions.

A (brief) historical perspective

What was the first computer interface you interacted with?

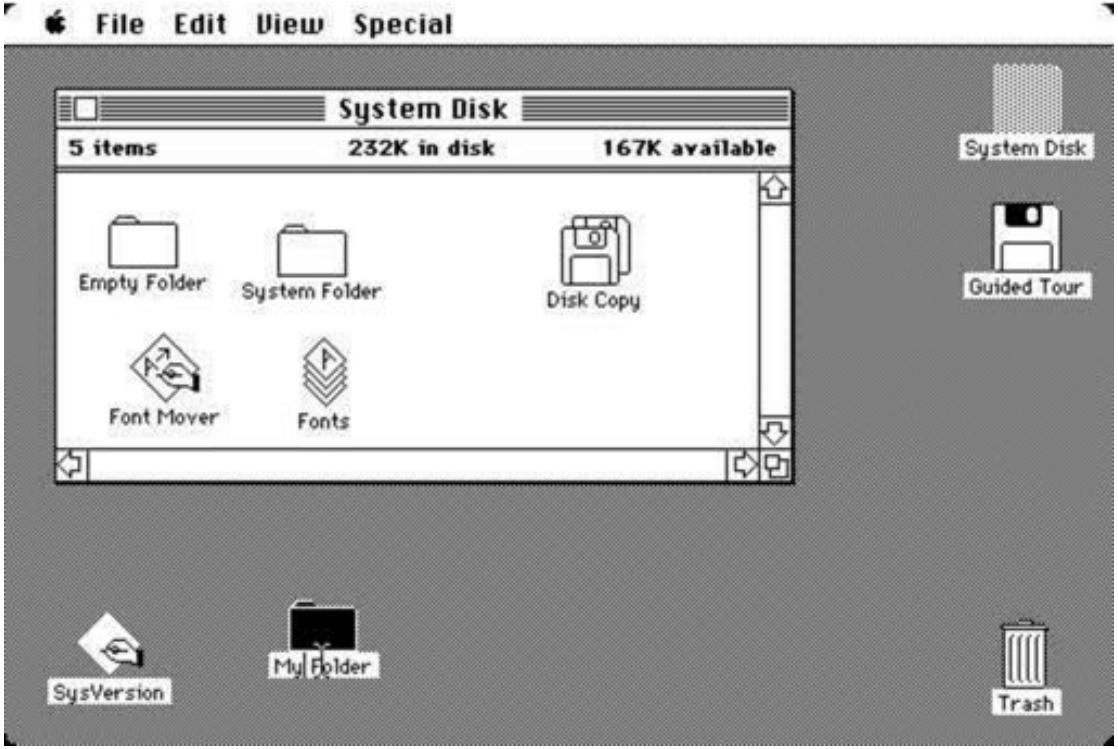
Command line

What are the pros? What are the cons?

The Mother of all Demos -1968

- Douglas Engelbart's demo at the Fall Joint Computer Conference, 1968.
- Demo-ed a hardware and software system called the oN-Line System (NLS).
- The dawn of interactive computing
- First time the public saw:
  - mouse, windows, hypertext, video conferencing, collaborative work, dynamic file linking, revision control...
- https://www.youtube.com/watch?v=VScVgXM7lQQ&list=PLCGFadV4FqU2yAqCzKaxnKKXgnJBUrKTE

Desktop (+ mouse) - 1984



What are the pros? What are the cons?

Desktop (+ mouse) ~2000

What are the pros? What are the cons?

The Internet

The Internet (+ video)

Computers become a communication channel

Activity recognition

What are the pros? What are the cons?

Mobile devices (+ touch)

Introducing the iPhone:
https://www.youtube.com/watch?v=x7qPAY9JqE4

Mobile devices (+ touch)

Internet of (smart) things (IoT)

What are the pros? What are the cons?

Augmented and virtual reality

What are the pros? What are the cons?

Conversational agents

Siri, Cortana, Alexa, etc.

https://www.youtube.com/watch?v=KkOCeAtKHIc&noredirect=1

The future??

- Any ideas?

- HCI is constantly in flux
- Changing constraints, needs, practices, tasks, etc.
- Hard to predict/ensure adoption of new technologies
  - Humans don't always do what they're supposed to do ☺

So what…?

- Designing for different/emerging technologies and different human populations requires a wide range of different skills/approaches
  - Focus on the human
- The field of "HCI" is expanding to encompass ALL computing technologies, human populations, etc.
- *We will study a combination of basic/core principles and emerging topics*

A (brief) historical perspective

Questions?

Comments?

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Before you go….

1. Complete “Assignment 0”
2. Sign up to lead a discussion (Zaid and Lei)
   - Two people per class
   - First-come first-served
   - Bonus points for picking next week!
3. Start discussing project teams/ideas
   - Find a partner
   - Start brainstorming ideas
   - Come and talk to me if you have questions

Next time…

Reading:

- “The Design of Everyday Things” by Don Norman
- Posted on the class website
- The whole book is only 7 chapters