CMPT 363: User Interface Design
Summer 2021

Week 13: Course Summary

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Recap from Last Lecture

- Evaluating Interfaces with Users: Experiments
  - Lab experiments
    - Why, what, where, who, how
    - Terminologies
- Guest lecture by PhD student Laton Vermette
  - User-centered design in practice: Helping educators customize their digital classrooms
    - Introduce the Customizer platform, a recent research project conducted here at SFU that aims to give course instructors a streamlined way to customize their learning management system
    - Walk through the design process behind Customizer, including how he gathered and analyzed user feedback, iterated on a series of prototypes, and implemented a preliminary version of our design on top of Canvas
    - Describe some high-level takeaways about user-centered design and prototyping (tips, pitfalls, etc.)

Group Project Part 3

- Overview
  - To design the interface for an online calendar that facilitates different kinds of activities for university students
- Part 3 (due on Aug 6) (https://canvas.sfu.ca/courses/63144/assignments/653608)
  - Continue with your MFPs
    - Cognitive Walkthrough
    - Reflection
    - ~~Video demo (upload to SFU Vault by Aug 1)~~
- Group Project Contribution Form (individual) (due on Aug 9)

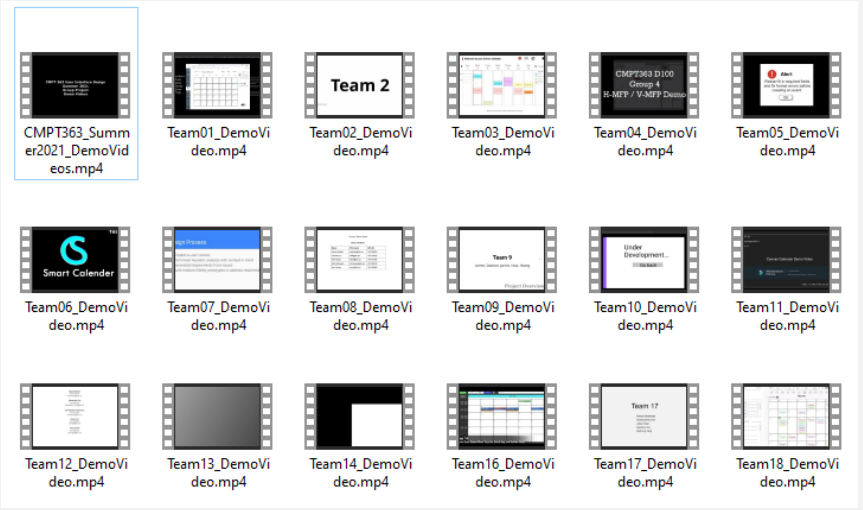
Final Exam

- Take home
  - Available on Canvas from Aug 12, 12:01am to Aug 12 11:59pm
  - It is expected to take you 3-4 hours to complete
- Covers all materials from the beginning to the end of the course
  - Some questions will be based on your Assignment 2, others will come from us
- Like a mini assignment except you have a much shorter time to finish (16 hours, assuming 8 hours of sleep)
  - No late submission is allowed, try to submit before the last minute
    - You can submit multiple times before the due date (we'll use the latest version to mark)
  - Save your work and don't touch it after your final submission (in case of the unlikely event when Canvas lost your file)
    - email a copy to yourself before the deadline
- Stay tuned to Announcements at Canvas for updates!

A mock exam will be available by the end of today on Canvas

Today

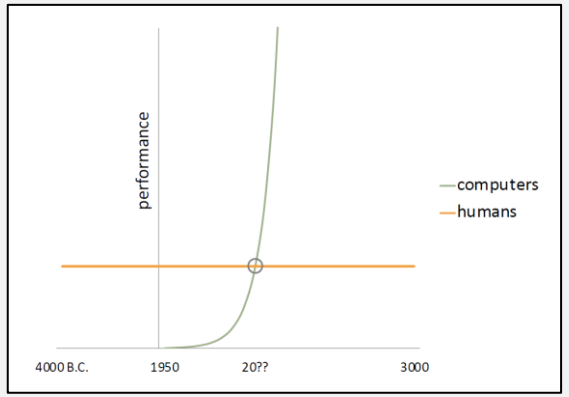
- Course summary
  - For details, refer to the corresponding slides & reading/watching materials
- Class survey results
  - The survey you took at the beginning of the course
- Project demo videos
  - showcase your results!
  - Use the link to the video to share it with others:



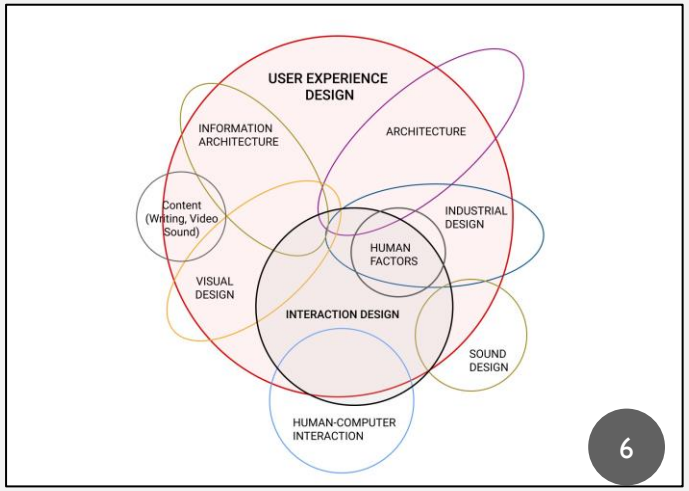
Link: https://stream.sfu.ca/Media/Play/67d5d93f6a984c3a92e140a7e3de96691d

Intro to HCI/UX

- Poorly designed interfaces lead to frustration and even to disastrous consequences
- We want to make technologies better through application of HCI/UX concepts so that they are
  - usable (easy to learn, operate, & remember), useful (gets the job done), meaningful (adds value, engaging, & empowering)
- HCI: looks at how human uses computer and study surrounding phenomena
- UX: looks at all aspects of end-user's interaction with product & services
- Designing good UI is not trivial



Slide idea by Bill Buxton



UX Design on Venn Diagram. Image by Dan Saffer.

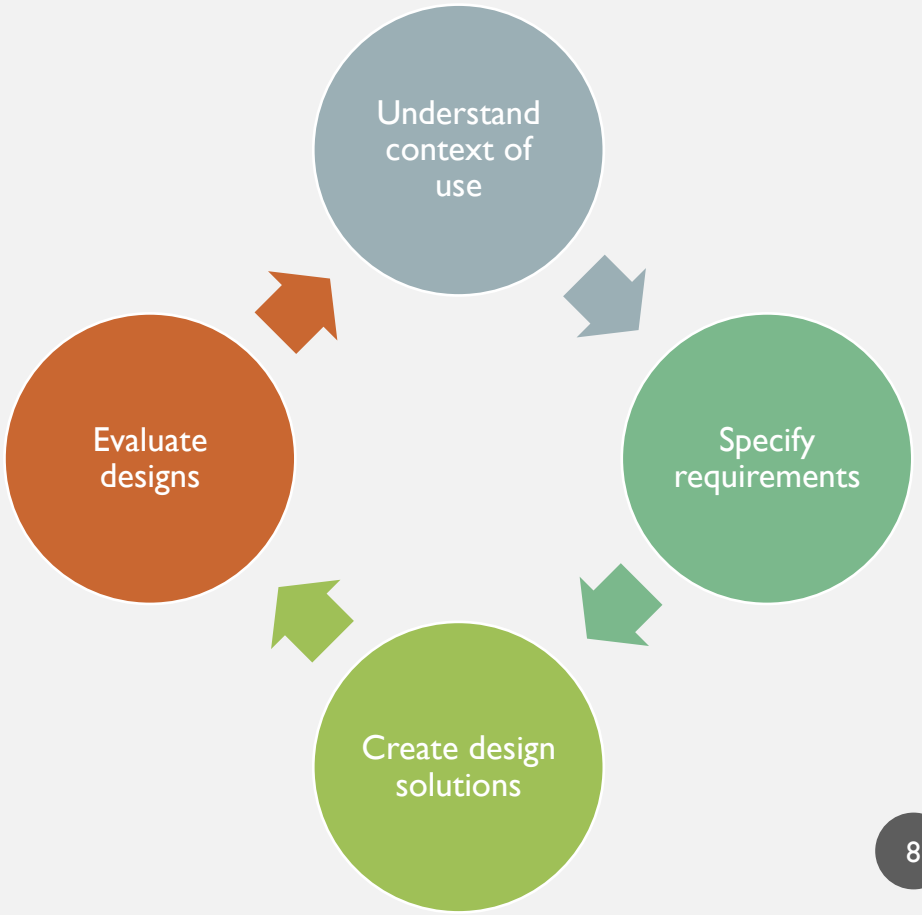
Design Goals, Principles, & Heuristics

- Generalizable usability concepts and attributes for creating better designs
- Goals: learnability, efficiency, memorability, errors, satisfaction
- Principles: visibility, feedback, constraints, consistency, affordance

- Common aspects for evaluating current designs
- Heuristics: visibility of system status, match between system + real world, user control & freedom, consistency & standards, …etc. (Nielsen's 10)

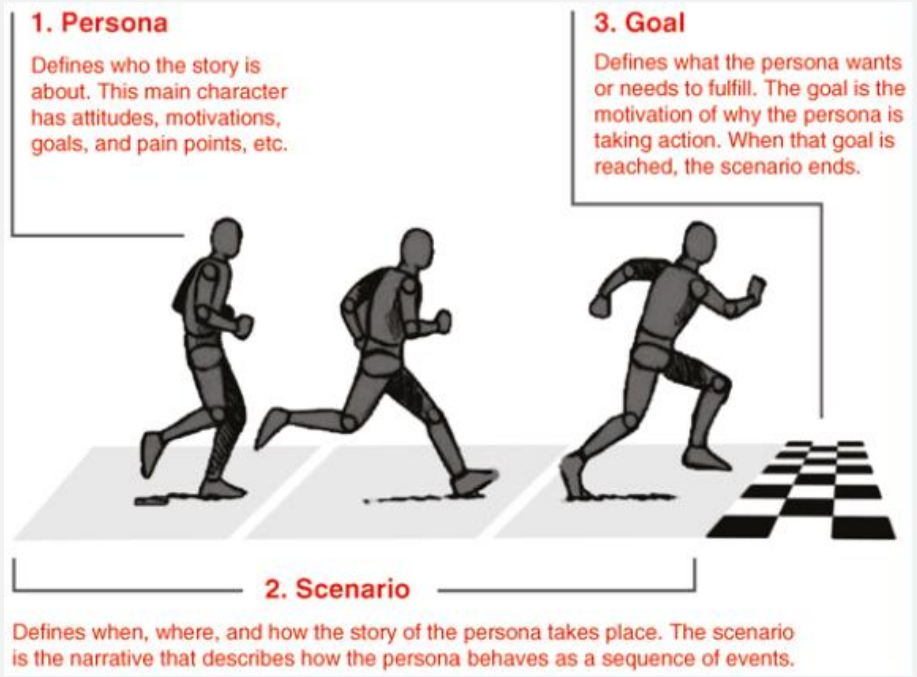
A User-Centered Design (UCD) Approach

- A systematic way of understanding and designing for end users
- An iterative process
- End users are involved in every step



Understand Context of Use

- Context – situation or environment that influence decisions
  - typically described by scenarios
- Users – people who carry our tasks and make decisions
  - typically described by persona



Source: http://www.smashingmagazine.com/2014/08/06/a-closer-look-at-personas-part-1/

Specify Requirements

- Statements about an intended product that specifies what it is expected to do (functional requirements) or how it will perform (non-functional requirements)
- Useful to explain the problem space
  - target users & their capabilities, tasks/goals/context, ways the design support tasks, constraints on the design
- Ways to find these requirements
  - Tasks analyses
  - Interviews, probes, Contextual Inquiry, brainstorming

Create Design Solutions

- Prototypes – early models/mock ups to help people interact with and explore suitability of a potential solution
- Prototyping tools
  - can take many forms: sketches, storyboards, simulation, physical objects, …etc.
  - used in our project: Balsamiq, Figma
- Different levels of fidelity in terms of functionality, details, and performance relative to product

Low-Fidelity

Medium-Fidelity

High-Fidelity

Evaluate Design

- Controlled settings directly involving users
  - Usually done in labs to provide the most control (mostly called usability testing/studies/experiments)
- Natural settings involving users
  - Usually done outside labs where the interface is designed to be used at (mostly called in-the-wild studies)
  - Can either have user doing specific tasks as instructed or just observe how they work with minimal interference
- Any settings not directly involving users
  - Consultants/field experts instead of users (mostly called analytical evaluation)

Other Topics

- Past, present, future computer user interface types
  - each has its benefits and drawbacks
- Visual design principles
  - mostly for visual content but applicable to GUIs
- Psychology of Everyday Things by Don Norman
  - fundamental principles of interaction, how people do things, how people learn new things
- Cognition
  - ways to describe how human understands and processes things in their minds
- Emotional design, inclusive design, design for accessibility
- Future of HCI research and UX practice

Class Survey Results

Remember the survey we had in the beginning of the course?

53 out of 85 responded

Which Faculty/Department Are You in?

Applied Sciences	43 respondents	**81 %**
Arts and Social Sciences	5 respondents	9 %
Business	2 respondents	4 %
Communication, Art and Technology		0 %
Education		0 %
Environment		0 %
Health Sciences		0 %
Sciences	3 respondents	6 %

What Place in The World Are You Currently at Right Now?

- About 48 are in Canada
- Rest are in: Vietnam, Seoul, Jakarta, Hong Kong

Class Composition

How many courses are you taking this term?

1	4 respondents	**8 %**
2	4 respondents	8 %
3	23 respondents	43 %
4	17 respondents	32 %
5	3 respondents	6 %
More than 5	2 respondents	4 %

Have you had any experience in writing programs in Java?

Yes	42 respondents	**79 %**
No	11 respondents	21 %

Things You Want to Learn in This Course?

- how to design good looking/intuitive/interesting/user-friendly UIs for current & future software projects
- design tools, common UI designs & techniques, UX principles
- learn how to design websites/apps to provide better UX
- good UI/UX design, user psychology, prototyping
- types of UI design needed to be used in different situations

- collaborate with others
- social impact of UI

Post-Lecture Activity

- Watch the CLUE talk by Rock Leung (https://www.youtube.com/watch?v=qMdBeVvDLpY)
  - Particularly helpful if you are thinking about research in HCI/UX
- Fill out the course evaluation (https://sfu.bluera.com/sfu/)
  - There may also be a TA evaluation (stay tuned to emails & announcements)

That's It!

- Congratulations! We have reached the last lecture of this course!
- Thanks for taking this course and showing up (remotely)
- All the best to your exams and future courses!