UNIVERSITY OF TORONTO SCARBOROUGH

Lecture 12: Review of Final Exam

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August 3, 2022

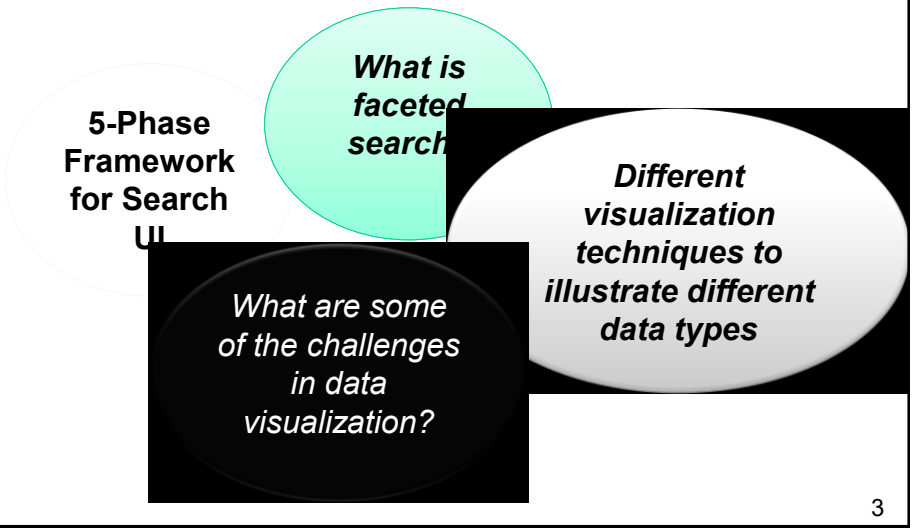
Administrivia

- Project:
  - P4 –
    - Presentations during tutorials (Aug 4, 5, 9, 10) via Zoom
    - Presentation Slide Deck Due: Aug 3
    - Report Due – Aug 10
- Final Exam

  August 22nd 9 – 11 am (MW 170)
- Any Questions?

Recap

Information Search & Data Visualization



The Plan for Today

- **Course Evaluation**
- **Final Exam Information**
- **Re-cap – *last 11 lectures***
- **Exercises**

Course Evaluations

Complete your course evaluations…

Check your e-mail for a message from course.evaluations@utoronto.ca, or go to http://uoft.me/openevals to complete your evaluations!

Final Exam Information

Monday, August 22, 2022 (IN-PERSON)

MW 170

9:00 – 11:00 AM EST

- Duration: 2 Hour
- Worth: **30%**
  - Must receive a 50% in the exam to pass the course
- **No** aids allowed
- **Closed Book**

Final Exam Review

Materials:

- Class Notes/Slides
- Text book – Interaction Design, DTUI
- Tutorial Readings
- Quercus – Weekly Discussion Questions
- Assignments x 3
- Projects – 4 Phases

Format

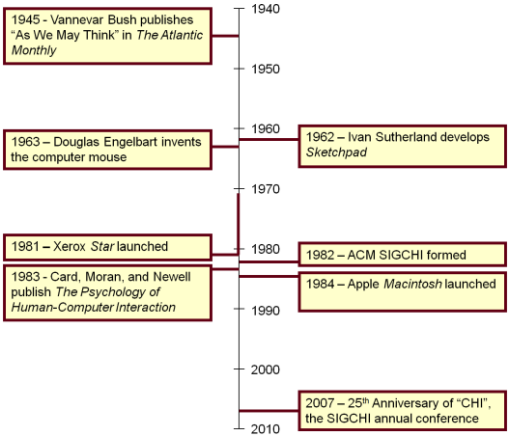
- Multiple Choice / True/False
- Short Answer Questions
- Scenario Based Questions

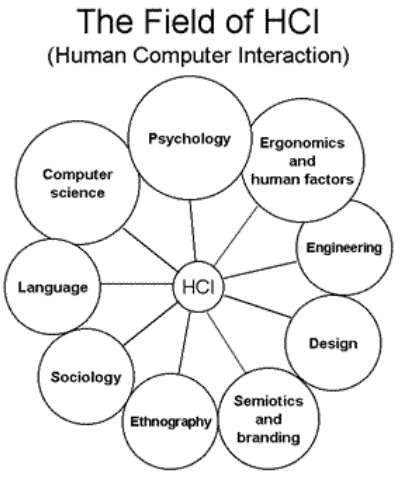
- Total: 100 Pts.
- Must get 50/100 (50%)

TIP: Pay attention to the Question points!

Lecture 1: Intro to HCI

- History of HCI (1940 – 80s)

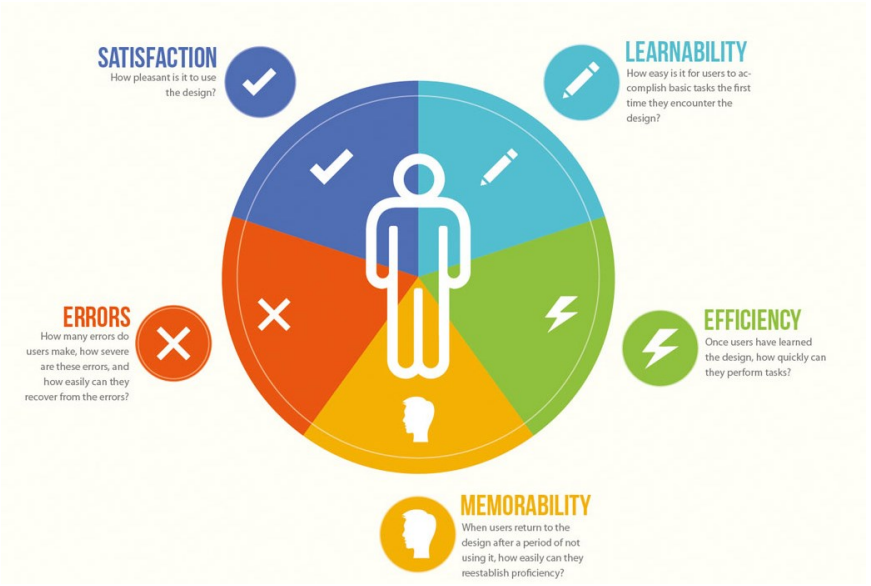




Lecture 2: Universal Usability - Guidelines, Principles and Theories

- **Usability** is one of the key concepts in HCI. It is concerned with making systems easy to learn and use.
- A **usable** system is:
  - easy to learn
  - easy to remember how to use
  - effective to use
  - efficient to use
  - safe to use
  - enjoyable to use

Nielson's 5 Components of Usability



Guidelines, Principles and Theories

Guidelines: Low-level focused advice about good practices and cautions against dangers.

Principles: Mid-level strategies or rules to analyze and compare design alternatives.

Theories: High-level widely applicable frameworks to draw on during design and evaluation, as well as to support communication and teaching.

- Theories can also be predictive, such as those for pointing times by individuals or posting rates for community discussions.

8 "Golden Rules" of Interface Design

1. Strive for consistency
2. Cater to universal usability
3. Offer informative feedback
4. Design dialogs to yield closure
5. Prevent errors
6. Permit easy reversal of actions
7. Keep users in control
8. Reduce short-term memory load

Lecture 3: User Centered Design

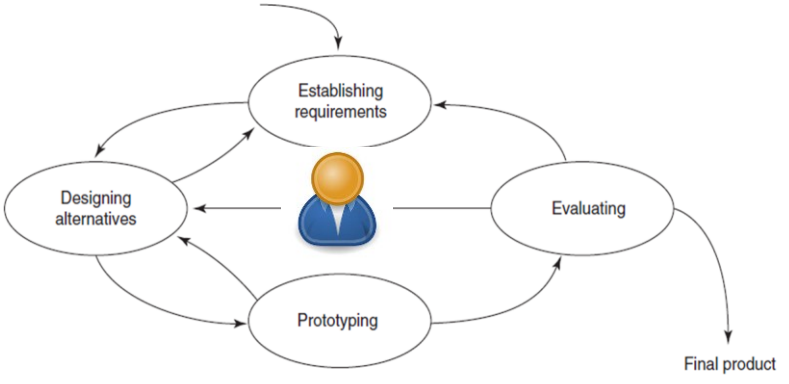


Figure 9.3 A simple interaction design lifecyle model

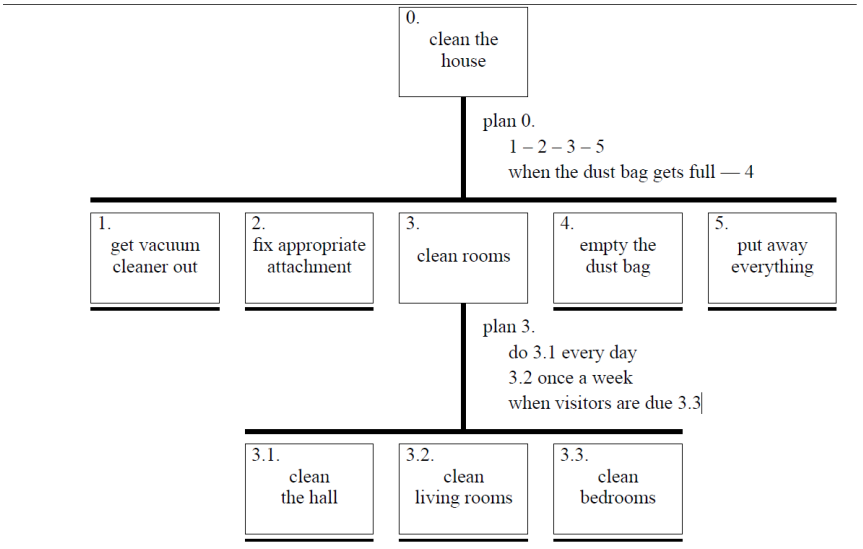
Data Gathering

- Interview
- Focus Groups
- Questionnaire/Survey
- Observation
  - Direct
  - Indirect
  - Ethnography

Five Key Issues

1. Setting goals
   - Decide how to analyze data once collected
2. Identifying participants
   - Decide who to gather data from
3. Relationship with participants
   - Clear and professional
   - Informed consent when appropriate
4. Triangulation
   - Look at data from more than one perspective
   - Collect more than one type of data, eg qualitative from experiments and qualitative from interviews
5. Pilot studies
   - Small trial of main study

Exercise



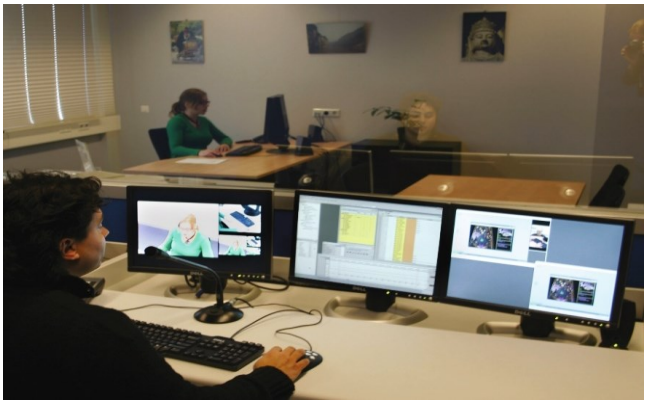
Lecture 4: Designing and Prototyping

- Low Fidelity Prototyping
- High fidelity Prototyping
- Conceptual Model
- Concrete Model
- Scenarios

Lecture 5 & 6: Creative Design Workshop

Lecture 6: Evaluation: Heuristic, Usability Testing & Ethics

- Evaluation
  - Controlled, Field, Expert



Types of Evaluation

1. **Controlled settings** involving users, eg. usability testing & experiments in laboratories and living labs.

2. **Natural settings** involving users, eg. field studies and in the wild studies to see how the product is used in the real world.

3. **Settings not involving users**, consultants and researchers critique, predict and model aspects of the interface in order to identify usability problems. The range of methods includes heuristics, walkthroughs, models and analytics.

3 Heuristic Evaluation (10) by Nielsen (1994)

1. Visibility of system status.
2. Match between system and real world.
3. User control and freedom.
4. Consistency and standards.
5. Error prevention.
6. Recognition rather than recall.
7. Flexibility and efficiency of use.
8. Aesthetic and minimalist design.
9. Help users recognize, diagnose, recover from errors.
10. Help and documentation.

Lecture 3-6: UCD

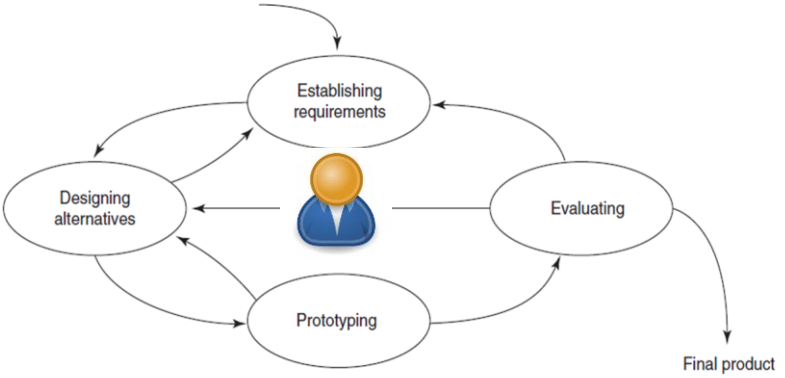
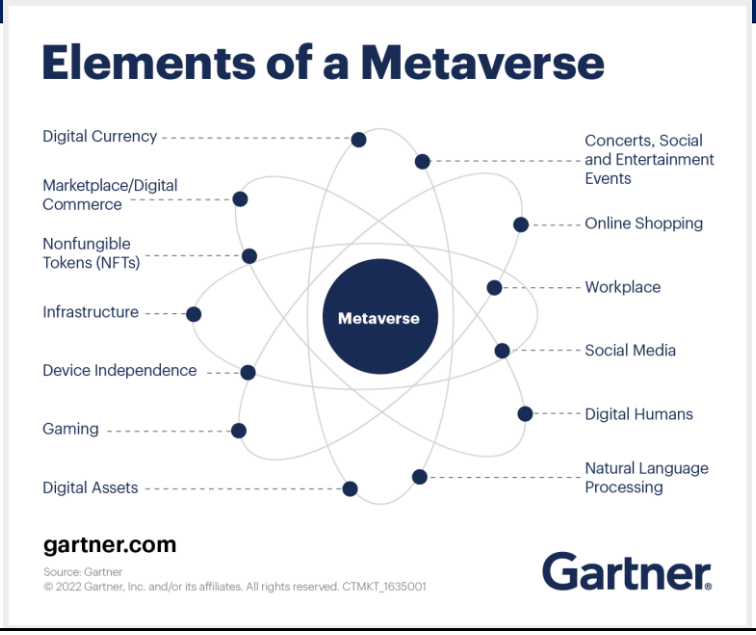


Figure 9.3 A simple interaction design lifecyle model

Lecture 7: Presentation on Metaverse



Lecture 8: Data Analysis and Case Studies

- Qualitative / Quantitative Data Analysis

	Raw Data Format	Example qualitative Data	Example quantitative Data	Initital processing steps
Interviews	• Audio recordings • Video recordings • Interviewee notes.	• Resp. to open ended questions. • Video pics • Opinions	Age, job, role, years of exp. Resp. to closed questions.	• Transcription of recording • Expansion of notes.
Questionnaires	• Written responses • Online database	• Resp. to open ended questions. • "Comment" fields • Opinions	Age, job, role, years of exp., Resp. to closed question,	• Clean up data • Filter into different data sets.
Observation	• Observer's notes • Photographs • Audio/Video recordings • Data Logs • Think-aloud notes	• Records of behavior • Copies of informal proc. • Task desc.	Demographics of participants, time spent on task, # of participants	• Expansion of notes. • Transcription of recordings • Sync. Btw data and recordings.

Lecture 8: Experimental Design & Interfaces

- Usability Testing
- Experiments
- Field Studies

Lecture 9: Interfaces, Navigation & Devices

1. Command-based	9. Pen
2. WIMP & GUI	10. Touch
3. Multimedia	11. Air Based Gesture
4. Information Visualization & Dashboards	12. Multi-modal
5. Web	13. Shareable
6. Consumer Electronics & Appliances	14. Virtual Reality
7. Mobile	15. Augmented Reality
8. Speech	16. Wearables
	17. Robots and Drones

Lecture 10: Social Computing, Collaboration and Social Media Participation

- Social mechanisms, enable us to collaborate and coordinate our activities
- Keeping aware of what others are doing and letting others know what you are doing are important aspects of collaborative working and socialising
- Design Considerations
- User Generated Data

Lecture 11:
Information Search and Visualization

- Search (social aspects, faceted search, task-types etc.)
- Data Visualization
  - Netlytic
  - Different types: Graphs, Network Diagrams, Tree Maps
  - Challenges in Data Visualization

Questions

What's Next

- **CSCD54H3S - Technology Innovation and Entrepreneurship**
- **CSCD90H3S - The Startup Sandbox**
- **Masters of Information (UXD Concentration)**
  Faculty of Information (UTSG)

That's It!

Good Luck on the Exam Everyone!