DES229: HCI Design
Midterm Mock Exam

curated by The Peanuts

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Conditions: Closed Book

Directions:

1. This exam has 11 pages (including this page).
2. Calculators are NOT allowed.
3. Write your name at the top.
4. Reading the problem is optional but highly recommended.
5. Solutions can be written in English or Korean.
6. If you see bad UI design in this exam paper (margins, text size, spacing, alignment), please circle it for bonus points.

For solution, click here.

Part I: True/False Questions

1. The boundaries between Human-Computer Interaction (HCI) and Interaction Design (ID) are increasingly blurred, with ID considered an evolution of HCI.

● True

○ False

2. When conducting user interviews, it's best to avoid silence and keep asking questions to maintain a good flow of conversation.

○ True

● False

3. In prototyping, it's more effective to focus on developing one high-quality prototype rather than exploring multiple versions.

○ True

● False

4. Paper prototypes are advantageous because they always look authentic to users and provide a realistic experience.

○ True

● False

5. When performing activity analysis, identifying the artifacts (tools/objects) users interact with is just as important as understanding the steps they take.

● True

○ False

Part II: Multiple Choice Questions

1. Which of the following is NOT a key action in empathizing with users?

a) Immerse - Experience users' environments firsthand

b) Observe - Watch how users interact with systems

c) Engage - Have conversations to uncover thoughts and emotions

d) Optimize - Change the design to eliminate all user errors

2. In the POV (Point of View) problem statement framework, what are the four components?

a) User, Facts, Need, Insight

b) User, Problem, Solution, Implementation

c) Who, What, When, Where

d) Challenge, Options, Variables, Execution

3. What is the main purpose of "How Might We" (HMW) questions in the design process?

a) To create a final solution

b) To transform problems into actionable design challenges

c) To evaluate existing products

d) To organize the development team

4. Which of these is a recommended practice during brainstorming sessions?

a) Focus on quality over quantity

b) Critique ideas as they come up to improve them

c) Encourage wild and rough ideas

d) Have everyone thinking silently to avoid distractions

5. When creating a storyboard prototype, which of the following should be included?

a) Detailed UI specifications and color schemes

b) Setting, sequence, and satisfaction

c) Full working code for main features

d) Comprehensive user documentation

6. What is a "Wizard-of-Oz" prototype?

a) A prototype with magical animations and transitions

b) A system where functionality is simulated by a human behind the scenes

c) A prototype that transforms from low fidelity to high fidelity automatically

d) A prototype specifically designed for children

7. Which of the following is NOT a characteristic of low-fidelity prototypes?

a) They save time to create ✓

b) They encourage more creative feedback ✓

c) They include final visual design elements

d) They are easy to change and modify ✓

8. According to the lecture materials, why is it important to "notice something" in the needfinding process?

a) It's the first step that leads to inference, insight, and actionable ideas

b) It helps designers focus solely on the technical aspects

c) It allows developers to code faster

d) It's a requirement for getting management approval

9. Which of these is a common constraint used in brainstorming to boost creativity?

a) What if users had unlimited time?

b) What if we had unlimited budget?

c) What if users only had 1 button to interact?

d) What if we could use any technology?

10. What is the appropriate progression of prototype fidelity in the design process?

a) High fidelity → Medium fidelity → Low fidelity

b) Low fidelity → High fidelity → Medium fidelity

c) Medium fidelity → Low fidelity → High fidelity

d) Low fidelity → Medium fidelity → High fidelity

Part III: Short Answer Questions

1. Explain why "You are not the user" is an important concept in interaction design.

This reminds designers that users have different backgrounds, experiences, and needs

Assuming user needs match your own leads to ineffective designs

2. Describe how errors observed during user testing can be valuable to designers.

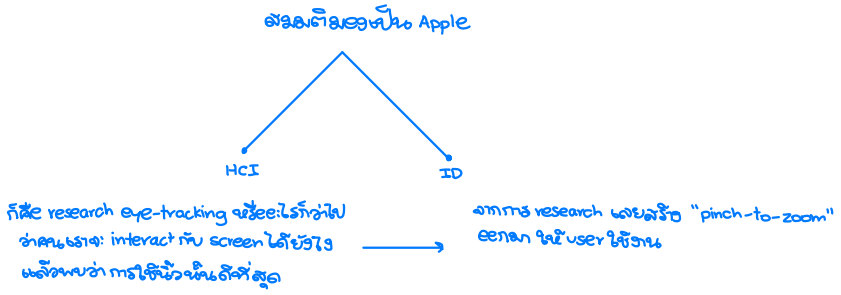
Errors during testing highlight pain points and area for improvement

They reveal real user struggles

3. What is the difference between Human-Computer Interaction (HCI) and Interaction Design (ID)?

HCI studies how people use digital systems and focuses on research and testing, while ID focuses on creating intuitive experiences that fit naturally in daily life

"ID can be seen as an evolution of HCI"



4. Explain what Albert Einstein's quote about problem-solving ("55 minutes thinking about the problem and 5 minutes thinking about solutions") means in the context of design.

we need to understand the problem thoroughly, this is more important than rushing to solutions
In design, proper need finding leads to better solutions

5. Describe the trade-off between simplicity and functionality in design, using the *Sony Google TV Remote* vs. *Apple TV Remote* example mentioned in the lecture.

(I LOVE THIS?)

Sony Google TV remote has many buttons offering extensive functionality BUT it's complex.

Apple TV remote is simple BUT limited in functionality.

" Design involves balancing these competing concerns like this ^^ "

6. What are the benefits of using open-ended questions during user interviews?

Open-ended questions reveal deeper insights beyond surface-level answers.
They allow users to share thoughts and emotions in their own words w/o being limited by pre-determined answers.

7. Explain why it's important to understand past designs when creating new ones.

Understand past designs helps create meaningful innovations
since even new designs are influence by the previous ones
It provides context for how users expect things to work.

8. How does the "build → evaluate → learn" cycle relate to prototyping?

↳ Very important, it's a core of prototyping, allowing iterative improvement.

Designers build prototypes, test them (evaluate), learn from feedback,
and improve in subsequent versions

9. What are the advantages and disadvantages of paper-based prototypes?

Paper prototypes are quick to create, allow multiple iterations, and can stimulate most interactions.
HOWEVER, they don't look authentic, can be slow to test, and required prepared testers.

10. Explain how wireframes differ from digital mock-ups in the prototyping process.

11. Why is it beneficial to start prototyping with low-fidelity designs rather than high-fidelity ones?

Low fidelity prototypes save time, starting from low fidelity can prevent others from focusing on minor details too early.

12. Describe a scenario where Video Prototyping would be more effective than Paper Prototyping.

Video prototyping is more effective when showing context of use in real environments or demonstrating complex physical interactions that would be difficult to stimulate with paper.

13. Explain how the POV (Point of View) framework helps designers define a problem effectively.

The POV framework helps define problems by identifying the user, observing facts, articulating needs, and generating insights. This structured approach leads to clearer problem statements

14. What are some criteria designers can use when voting on ideas after a brainstorming session?

Voting criteria include frequency (common issues), popularity (how many people experience it), serious (degree of annoyance), and fun (our team likes it!)

Make a decision

- Set a criteria for voting.
  - Frequency: issue that happens frequently
  - Popularity: many people experience the issue
  - Serious: Degree of annoyance
  - **Fun**: Our team likes it and it seems fun!, novel, craziness

15. How does activity analysis help make design decisions more explicit?

Activity analysis makes design decisions explicit by examing steps, artifacts, goals, sucess metrics, and pain points This helps designers understand the complete user experience (UX)

Activity analysis

- What are the procedural steps?
- What are the artifacts that people use in the design?
- What are the goals of the task?
- Who are using the system?
- How will you measure success if you see someone use your system?
- What are the pain points that people experience already?

Share them with a lot of people.
With the design team, stakeholders, clients, and users.