

Questions and Answers for the Lectures on HCI

Module 2

1. Explain the concept of user centered design. How it is different from participatory design concept?

Answer: In any interactive system design, designers must know the user to take into consideration the human factors involved. In this way, the designer can improve usability of the system. The design process, where designer collects feedback about the design from users and use this to refine design, is known as “user centered design” or UCD. UCD is based on understanding the domain of work or play in which people are engaged and in which they interact with computers.

In UCD, user involvement is passive (i.e., the designer’s collect input from users). However, in participatory design, users are actively involved in the design process by being a part of the design team itself.

2. Mention with brief explanation the main stages of an interactive system design life cycle.

Answer: The life cycle contains the following five stages (see slide no 29, Lecture 2, Module 2 for diagram).

- a) Identify need: in this stage, user requirements are collected through means such as contextual inquiry, ethnography and so on.
- b) Analyze data: the data collected in the previous stage is brainstormed and analyzed in this stage.
- c) Propose design: based on the analysis of the data, designer proposes initial design.
- d) Develop prototype: a prototype of the design is built at this stage.
- e) Evaluate: the prototype is evaluated through means such as cognitive walkthrough, heuristic evaluation and empirical evaluation.

The steps (b) to (e) above are iterated to refine the design.

- f) Implement and deploy: once the refinement of the design stabilizes through iteration of the steps (b) to (e) above, the final product is implemented and deployed.

3. Explain the different prototyping techniques used in HCI. In which stages of the design cycle these are used and why?

Answer: In HCI, three broad categories of prototypes are used in different stages of the design life cycle. These are mentioned below.

- a) Low fidelity prototypes: the prototypes in this category are built primarily using cheap and non-technological means such as paper, cardboard, wood etc. These are useful mainly to brainstorm initial ideas at the early design stage.
- b) Medium fidelity prototypes: these prototypes are used primarily to evaluate selective functionality of the system, during the middle phases of the design. There are two ways in which medium fidelity prototypes are implemented: (a) horizontal prototypes, in which the entire surface interface is implemented without any functionality and (b) vertical prototypes, in which one or more features of the systems are implemented in depth.
- c) Hi fidelity prototypes: these typically refer to prototypes where most, if not all, functionalities of the system is implemented for final user evaluation. Since user evaluation is costly in term of money and effort, such prototypes are usually developed at the final stages of the design cycle.

4. Discuss the wizard of oz approach. Can we evaluate any design with this approach?

Answer: The wizard of oz is an approach where we can evaluate some idea without actually implementing anything, not even prototypes (see slides 35-39 in Lecture 6, Module 2 for an example of the approach).

This approach is typically used when building low or medium fidelity prototypes are not possible and we don't want to implement hi fidelity prototypes, without having any idea about the usability and acceptability of the end product.