

Exam 1 Sample Questions and Things to Know

Advantages and issues for on-line questionnaires

Be able to discuss the perceptual issues in a design

Be able to explain differences between and trade-offs among different participants, same participants, and matched participants experimental designs.

Be able to identify the dependent and independent variables of a study.

Compare and contrast recall and recognition.

Compare the star life cycle to the waterfall model of software design.

Create an IBIS for a given design topic.

Describe an experiment to compare error rates (how often users make errors) between two systems for two different tasks. (How do you assign subjects, what do you measure, etc.)

Describe ethnography. How is ethnography different than an interview? List advantages of each.

Describe signifiers and affordances and be able to identify them in a design.

Describe the gulf-of-execution and gulf-of-evaluation.

Describe the three components of Issue-Based Information Systems.

Draw the results of a hierarchical task analysis for selecting classes for the spring semester.

Draw the waterfall lifecycle model.

Give examples of ethical issues in evaluations and user studies

Give an example of how computer systems change social practices.

How are predictive evaluation methods different than the other evaluation methods discussed?

How are prototyping tools used in design practice?

How can information be structured to guide attention and perception?

How can metaphors be useful in interface design?

How does short-term memory impact interface design?

How does the cognitive walkthrough relate to Norman's gulf of execution and gulf of evaluation?

Know about scenarios, use cases, and essential use cases (similarities and differences).

Know about structured, unstructured, semi-structured, and group interviews and their pros/cons.

Know about the think-aloud technique and diary studies.

Know the characteristics of usability testing, field studies, and analytical evaluations.

Know the difference between and be able to generate or identify functional requirements, data requirements, environmental requirements, user requirements, usability and user experience goals/requirements.

Know when to use a T-test, a paired T-test, an ANOVA, and a Chi square analysis of data.

List differences between usability testing and experiments for research.

List three different types of stakeholders in the design of software for elementary education.

List three distinct reasons why to include end users in design.

Mean, median, mode (meanings and limitations)

Questionnaire design and the type of questions (e.g. semantic differential scales vs. Likert scales)

The difference between a participant observer and a passive observer.

The difference between quantitative and qualitative analysis.

Understand the value of pilot studies

What activity is at the center of the Star lifecycle model?

What are dangers with high-fidelity prototypes?

What are four metrics for CHI design success?

What are the four steps in the interaction design process?

What are two advantages of interface standards?

What does Fitt's law predict?

What evaluation method(s) would you use early in the design of a new product? Why?

What evaluation method(s) would you use when finishing a product? Why?

What is a "wizard of oz" prototype?

What is a cognitive walkthrough? How is it different from a heuristic evaluation?

What is a formative evaluation? What is a summative evaluation?

What is a heuristic evaluation? Who performs it? What is the process?

What is a latin-square study design used for?

What is a mental model?

What is a pluralistic walkthrough?

What is a thinking-aloud protocol.

What is an advantage and a disadvantage of having end users as part-time vs. full-time members in design.

What is anthropomorphism?

What is distributed cognition?

What is evolutionary prototyping? "throw-away" prototyping?

What is GOMS? What does GOMS stand for?

What is participatory design?

What is the difference between low fidelity and high fidelity prototypes?

What is the difference between procedural and declarative knowledge?

What is the difference between synchronous and asynchronous communication?

What is the difference between vertical and horizontal prototypes?

What is the main reason why predictive evaluations are used?

What is the purpose of the IDEO TechBox?

What is the unique analysis involved in a spiral lifecycle model process?

What kind of conflicts might designers face when designing computer systems?

What was Rittel's original goal for argumentation-based design?

When might color get in the way of system usability?

When would you use a storyboard prototype? When a sketch? Or a card-based prototype?

Why do experts have difficulty in explaining their knowledge?