

Assignment No. 2 & 3 (User Interface design)

Q1: Explain basic principle of basic principle design.

Answer. The principles of user interface design are intended to improve the quality of user interface design. ... The simplicity principle: The design should make simple, common tasks easy, communicating clearly and simply in the user's own language, and providing good shortcuts that are meaningfully related to longer procedures.

Q2: What are the characteristics of a good interface.

Answer.

Clarity is the most important element of user interface design.

...

- Concise. ...
- Familiar. ...
- Responsive. ...
- Consistent. ...
- Attractive. ...
- Efficient. ...
- Forgiving.

Q3: What is Cognitive Ergonomics? Explain briefly its components.

Answer. Cognitive ergonomics is the field of study that focuses on how well the use of a product matches the cognitive capabilities of users. It draws on knowledge of human perception, mental processing, and memory. ... have an

emphasized cognitive component (e.g., calculation, decision-making) are in safety-critical environments.

Q4: Explain 10 principles of cognitive ergonomics?

Answer. Standardize

In every domain including interface design, there are widely common way of doing things. For instance, electricity wires are identified using colors the same way everywhere.

Present information in appropriate detail

Not all users and not all tasks require the same quantity of details. Learn to display just the necessary amount of information and use tool-tips instead of clustering the interface.

Present clear images

Using icons, metaphors or images, be careful to make it so the users is able to see and interpret them clearly

Use of stereotypes

The stereotype is a concept very closed to the use of standards. In facts, good standards generally follow a stereotype

Using redundancies

Redundancies have to do with consistency, standards and stereotypes. It means to repeat the message many times different ways to reduce the risk of errors to occur.

Controls matching equipment layout

Whenever possible, configure elements in a way that the usage becomes obvious. For instance, on a stove, the best practice is to position the power knobs using the same configuration as the burners.

Simplify the presentation of informations

Well organized informations makes understanding easier and faster. Using design principles such as unity, proximity and alignment greatly improves the interface quality.

Using patterns (pop-out effect)

Using a pattern makes information easier to understand and anything unusual sticks out very efficiently.

Provide instantaneous feedback

Use feedbacks at all possible time to confirm an action or a process. Let users know that their content is downloading or tell them what action should be taken.

Provide variable stimuli

Just like something unusual sticks out of patterns, anything new of a different aspect is easier to notice. That is actually why emergency vehicles sirens are changing pitch and rhythm in order to be more easily noticed.

Q5: What are essential UI design laws?

Answer. POLA principle

Hick's Law

MAYA principle

Banner blindness

Baby duck syndrome

Fitts's Law

Miller's Law

Habit formation

Zeigarnik effect