

Assignment no. 2 & 3

(User Interface design)

Q1: Explain basic principle of basic principle design.

Ans Contrast

When a design uses several elements (e.g., type, colour, size, line, shape, thickness), the goal is to make each one distinct. Contrast allows designers to assign characteristics that set elements apart from each other

Repetition

Repetition helps designers establish relationships, develop organization and strengthen unity size

Alignment

Skilled designers never place anything arbitrarily. All elements should relate to all others in some way

Proximity

When items are grouped or appear close together, they become a single visual unit, rather than several separate entities

Q2: What are characteristics of good interface.

Ans Characteristics of good interface are utility, clarity, concision, familiarity, responsiveness, reliability, user friendliness, consistency, aesthetics, efficiency, control, forgiveness

Q3: what is cognitive ergonomics? Explain briefly its components.

Ans 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.

1 The law of least effort

A user for different reasons, does not want to lose time nor energy. So, users have a tendency not to learn nor remember functionalities if they don't seem useful

2 Humanizing the information treatment

This has to do what is commonly called the mental load which takes in account the users senses and mnemonic limits, the limits and ways a user perceives and learns

3 Optimizing perceptual memory

Perceptual memory is a part of the memory which manage information perceived with our five senses

4 Reading speed and distance

reading text on screen is between 20% and 30% slower than reading printed material. It is important to fragment informations in smaller chunks and use captions to encourage the user to read

5 Internal cohension

It is important to make recurrent use of symbols, terms, elements positions etc. Consistency will make it easier and faster for the user to complete the task

Q4 Explain 10 principles of cognitive ergonomics?

Ans: 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 eveywhere

2 Use of stereotypes

The stereotypes is a concept very closed to the use of standards. in fact, good standards generally follow a stereotypes

3 Controls matching equipment layout

whenever possible, configure elements in a way that the usage become obvious. for instance, on a stove, the best practice is to position the powerknobs

4 Simplify the presentation of informations

Well organized informations makes understanding easier and faster. Using design principle such as unity, proximity

5 Present information in appropriate detail

Not all the users and not all the tasks require the same quantity of details. Learn to display just the necessary amount of information

6 Present clear images

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

7 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

8 Using patterns

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

9 Provide variable stimuli

just like something unusual sticks out of patterns, anything new of a different aspect is easier to notice

10 provide instantaneous feedback

Use feedback 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