**USER INTERFACE**

**ASSIGNMENT 2**

1. What are the characteristics of a good interface ?

       Ans - The ability of any website or a web application to attract and engage users ultimately depends on how well the user interface is designed. A good user interface allows the user to carry out the intended actions efficiently and effectively, without causing too much of a distraction. User interface is the only way you can communicate with your client accessing your site remotely.

The points to be kept in mind while designing good user interface are:

1. **Clear and simple** - A good user interface provides a clear understanding of what is happening behind the scenes or provides visibility to the functioning of the system. The whole purpose of user interface design is to enable the user to interact with your system by communicating meaning and function.
2. **Creative but similar** - When the users are familiar with something and know how it behaves,

navigation becomes easier. In effect, the user expects to see what is familiar to him or her. It is good to identify things that your users are accustomed to and integrate them into your user interface.

1. **Intuitive and consistent -** The controls and information must be laid out in an intuitive and consistent way for an interface to be easy to use and navigate. It’s not good to drastically change the layout to achieve the changing functionality the business may require from time to time.
2. **Responsive** - If the interface fails to keep up with the demands of the user, this will significantly diminish their experience and can result in frustration, particularly when trying to perform basic tasks. Wherever possible, the interface should move swiftly in pace with the user. Being responsive means being fast.
3. **Maintainable** - A UI should have the capacity for and changes to be integrated without causing a conflict of interest. For instance, you may need to add an additional feature to the software, if your interface is so convoluted that there is no space to draw attention to this feature without compromising something else or appearing unaesthetic, then this signifies a flaw in design.

2. What is cognitive ergonomics ? Explain briefly its components ?

 Ans - Cognitive ergonomics is a scientific discipline that studies, evaluates, and designs tasks, jobs, products, environments and systems and how they interact with humans and their cognitive abilities. It is defined by the International Ergonomics Association as "concerned with mental processes, such as perception, memory, reasoning, and motor response, as they affect interactions among humans and other elements of a system.

**Here are some components of cognitive ergonomics -**

**Use of stereotype** - the stereotype is a concept very closed to the e of standards . In fact , good standards generally follow stereotypes .

1. **Present information in appropriate detail** - Not all users and and all tasks require the same quantity of details . The necessary amount of information and use tool tip instead of clustering the interface .
2. **Simplify the presentation of information** - well organized information makes understanding easier and faster . using design principles , such as unity , proximity , and alignment greatly improves the interface quality .
3. **Using patterns** - using a pattern makes information easier to understand and anything unusual sticks out very efficiently .

3. Explain 10 principles of cognitive ergonomics ?

1. **Standardize**:- The more they use a function, the more they develop reflexes which helps prevent errors and make using an interface easy and fast.
2. **Use of stereotypes**:-  the stereotype is a concept very closed to the e of standards . In fact , good standards generally follow stereotypes .

(c) **Present information in appropriate detail** - Not all users and and all tasks require the same quantity of details . The necessary amount of information and use tool tip instead of clustering the interface .

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**(e) Using patterns** - using a pattern makes information easier to understand and anything unusual sticks out very efficiently .

(g) **present clear images** - Another common problem is exhibiting an image poorly so that the user cannot distinguish or interpret the message. Three issues in presenting clear images are being visible, distinguishable, and interpretable.

(h) **Use Redundancies** -  Sometimes, one message is insufficient. Because mistakes are easy to make and humans have many limitations, it is important to provide the same information in more than one way.

(i)  **Provide variable stimuli** - Emergency vehicles use flashing lights and sirens that change pitch and patterns.

(j) **Provide instantaneous feedback** -  it helps prevent errors and provide feedback to the user on the course of action taken. Furthermore, the sooner the feedback is given, the easier it is to determine if an error has been made or not.

4. What are essential UI designs laws  ?

Ans. **There are 10 important rules  of UI designs laws –**

1. **POLA priciple** - POLA stands for Principle of least astonishment. It states that if a necessary feature has a high astonishment factor, it may be necessary to redesign it.
2. **MAYA principle** - MAYA stands for Most advanced yet acceptable. It states that  people are naturally resistant to change, novelty and innovations, it is important to rely on standards as much as possible.
3. **HAbit formation** - When an interface is used persistently, the user develops habits. Using the interface becomes natural, easy. Be careful not to make bad assumptions about users behaviours and ensure the users form good habits.
4. **Miller's law** - Miller's law states that the average person can only keep seven items in their working memory. So, it is highly beneficial to fragment content within logically organized groups in order to ease complex tasks.