

HUMAN COMPUTER INTERACTION

13850

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(INU)

Q 01:-Consider the chair given below .Your employees want to use it as a computer chair. Your task is to write as HCI specialist your job is point out any Five issues in the design of this chair.

Ans 01:-As a HCI specialist I point out the following five issues in the design of this chair.

- 1)The first issue is this chair is made from wood and hard to sit all the day and work on computer so for a computer operator there must be a soft coating on the chair so the operator can use it all the day with out any problem from the chair.
- 2)The back support(body to chair) is not good because due to this design of the chair backside can harm the computer operator spinal cord and can fell extreme back pain and also neck problem.

3)The height of the chair is small as compare to the computer table used by the computer operator so the hand and eyes to input devices (keyboard, monitor) are not parallel to work and as a result the employees can not work constantly with time.

4) There should be small wheels in the chair its make easy to operate with computer and an employee can contact with other employees easily only rounding the chair not to left the chair and go towards other employees.

5)In this chair there is not side supports for both the hand where employees kept hand during any operation perform on the computer such as typing or using mouse etc. Without side support it makes difficulties for the employees.

As a HCI specialist I would say that this chair is not good for the employees that operate on the computers.

Question 2: What is Paradigm, and what do you mean by paradigm shift?

ANS :

Paradigm ->

Paradigm is a distinct set of concepts or thought patterns, including theories, research methods, postulates, and standards for what constitutes legitimate contributions to a field.

- Predominant theoretical frameworks or scientific world views
- e.g., Aristotelian, Newtonian, Einsteinian (relativistic) paradigms in physics

The primary objective of an interactive system is to allow the user to achieve particular goals in some application domain, that is, the interactive system must be usable.

- The designer of an interactive system, then, is posed with two open questions:
 1. How can an interactive system be developed to ensure its usability?
 2. How can the usability of an interactive system be demonstrated or measured?

Paradigm shift

paradigm shifts, which characterize a scientific revolution, to the activity of normal science, which he describes as scientific work done within a prevailing framework or paradigm

Paradigm shifts arise when the dominant paradigm under which normal science operates is rendered incompatible with new phenomena, facilitating the adoption of a new theory or paradigm.

Example Paradigm Shifts

- Batch processing
- Timesharing
- Networking
- Graphical display
- Microprocessor
- WWW
- Ubiquitous Computing

Question3:) Explain Design Rationale. Write and explain the types of design rationale.

ANS:

Design rationale

"Design rationale expresses elements of the reasoning which has been invested behind the design of an artifact" [Shum & Hammond, 1993].

Design rationale is information that explains why a computer system is the way it is.

Benefits of design rationale.

- communication throughout life cycle.
- reuse of design knowledge across products.
- enforces design discipline.
- presents arguments for design trade-offs.
- organizes potentially large design space.
- capturing contextual information .

Types of DR:

- Process-oriented
 - preserves order of deliberation and decision-making
- Structure-oriented
 - emphasizes post hoc structuring of considered design alternatives
- Two examples:
 - Issue-based information system (IBIS)
 - Design space analysis

- **Basis for much of design rationale research**

- process-oriented
- main elements:

issues

- hierarchical structure with one 'root' issue

positions

- potential resolutions of an issue

- **Design space analysis**

structure-oriented

- QOC – hierarchical structure:

questions (and sub-questions)

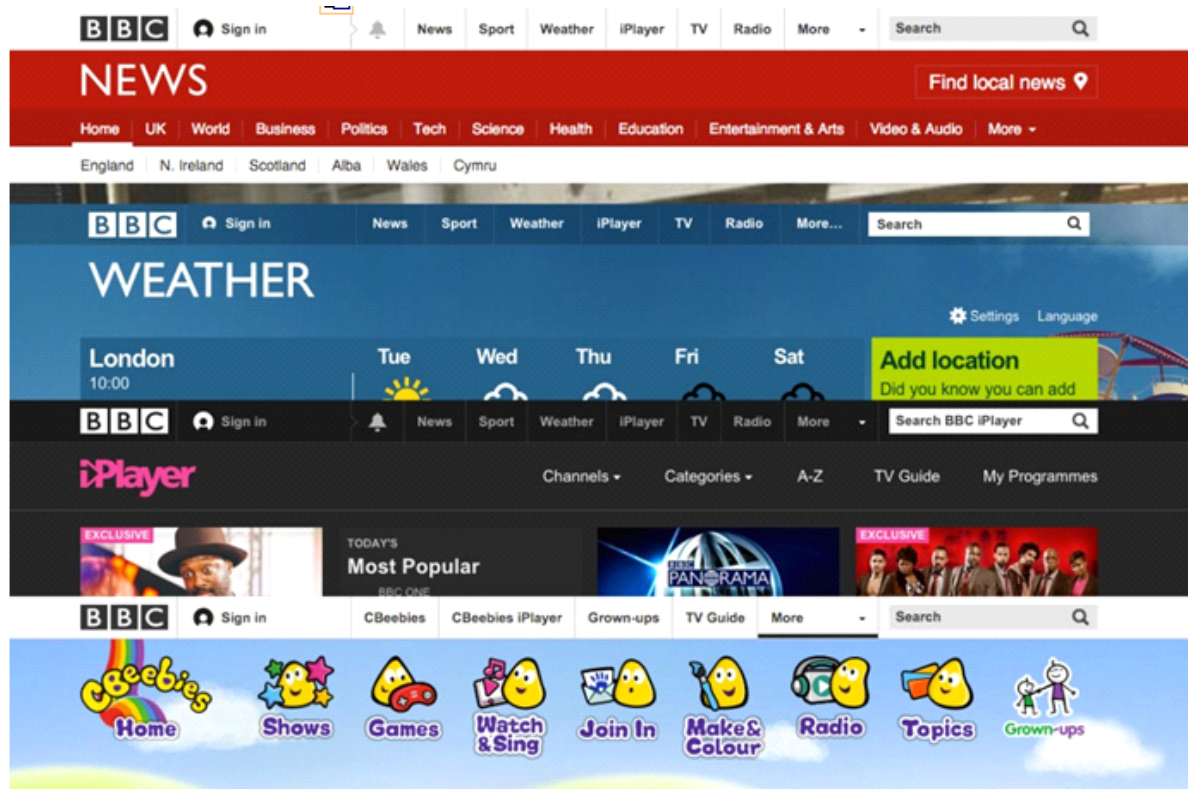
– represent major issues of a design

Q 04:-Find the web pages that illustrate the principle of consistency. You must provide on good and one bad example of consistency. You must provide the screen shot of web pages along with URL and the written explanation justifying your good and bad example in your answer. To provide the relevant examples browse the internet.

Ans 04:- Consistency is a golden-rule in design. To provide a quality experience to your users it is essential that you are consistent in both design and content of your websites. Consistency is the biggest factor that separates a negative experience from a positive one.

I have taken the following screen shot from BBC news web page

url: <https://www.bbc.com/>

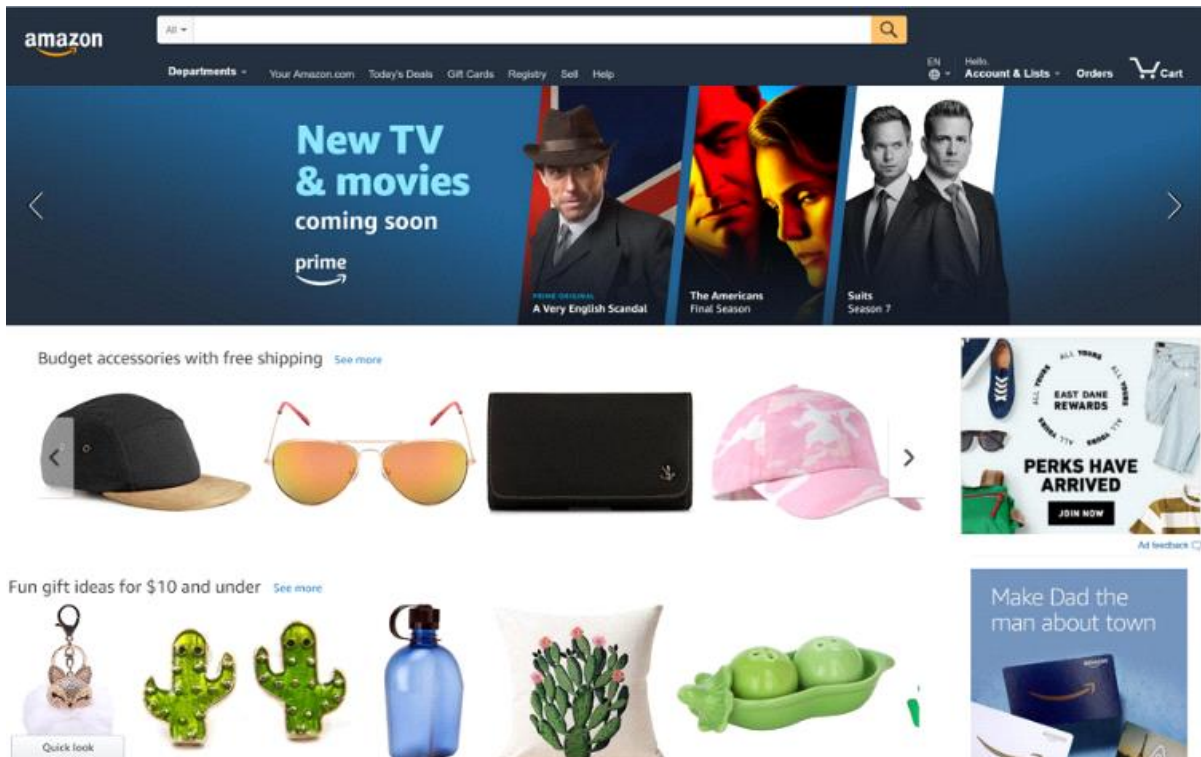


Good example of consistency:

Design for your user expectation:-

Make sure you have the features and functionalities users would expect to see on your site. For example, an airline site should have a ticket-booking system, while a music-sharing site should have a media player.

A video-sharing website like YouTube is obviously expected to have a video player. This is a great example of consistency in that the features and functionality of the site supports what the user expects.



Bad Example of consistency:-

The bad example of consistency is that not used grid system, unbelievable navigation structure , poor typography and also random use of color that give unpleasure look to the webpage visitor and does not like every one as the bad example is given below.



Question 5: Write the Shneiderman's 8 Golden Rules ?

ANS :

Shneiderman's 8 Golden Rules :

1. Strive for consistency
2. Enable frequent users to use shortcuts
3. Offer informative feedback
4. Design dialogs to yield closure
5. Offer error prevention and simple error handling
6. Permit easy reversal of actions
7. Support internal locus of control
8. Reduce short-term memory load.

Q 06:- You are familiar with internet explorer. Explain any five usability goals in terms of internet explorer. Justify each goal with example?

Ans :-Following are the five usability goals of internet explorer.

(1)**Effectiveness**:-Effectiveness is the overall measurement of how the system performs the internet explorer are effective in their function and provide the user the work they need to do

Example:- if some one visit for a game they can find the game easily

(2)**Efficiency**:- How fast can the user finish the task. It's all about speed.

Example:-

there were different results for different tests that were ran. For example, casual browsing of websites saw hardly no difference in the energy required by the three browsers. Where the differences became most notable were when the browsers were used to play Flash and HTML5 videos. Internet Explorer 10 saw the least energy consumption.

(3)**Safety**:- is protecting the users from dangerous errors Safety can also refer to how users recover from errors. Safety is a little considered usability goal.

Example:-

Internet Explorer uses a zone-based security framework that groups sites based on certain conditions, including whether it is an Internet- or intranet-based site as well as a user-editable whitelist. Security restrictions are applied per zone; all the sites in a zone are subject to the restrictions.

(4)**Memorable**:- is how easy is it to remember how to use an interface after the user has experience with the system Memorable is related to learnability and has generated GUIs with menus and icons,

Example:-

IE7 has a nice quick tab feature that allows users to view a thumbnail of every open page. This is a huge help for Internet power users who often have ten or more web pages open at once. This is actually a powerful and useful tool, which Microsoft may have taken from Opera.

(5)**Utility**:- is a measure of the correct functionality and breadth of functionality.

Example:- internet explorer provide us a lot of features in all version

like speed , reliability , safety , etc