FINAL ASSIGNMENT

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DEPT : BS SOFTWARE ENGINEERING

COURSE NAME: HUMAN COMPUTER INTERACTION

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Q.1:- Consider the chair given below. Your Employees want to use it as a computer chair. Your task is to write any As HCI Specialist, your job is point out any Five issues in the design of this chair.

Ans:-

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

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Q.2:- What is Paradigm, and what do you mean by paradigm shift?

Ans:- **PARADIGM:-** Predominant theoretical frameworks or scientific world views.

e.g , Aristotelian, Newtonian, Einstenian (reativistic) paradigms in physics

Understanding HCi history is largely about understanding a series of paradigm shifts.

- Not All listed here are necessarily ‘paradigm’ shifts.but are at least candidates
- History will judge which are true shifts.

PARADIGM SHIFT:- Something works or is accomplished. A paradigm shift can happen within a wide variety of contexts. They very often happen when new technology is introduced that radically alters the production process of a good or service. For example, the assembly line created a substantial paradigm shift, not only in the auto industry but in all other areas of manufacturing as well.

Example Of Paradigm Shift

Batch processing

Timesharing

- Networking
- Graphical display
- Microprocessor

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Q.3:- Explain Design Rationale. Write and explain the types of design rationale?

Ans:- **DESIGN RATIONALE:-** A design rationale is the explicit listing of decisions made during a design process, and the reasons why those decisions were made. Its primary goal is to support designers by providing a means to record and communicate the argumentation and reasoning behind the design process.

Benefits of design rationale

Ø communication throughout life cycle

Ø reuse of design knowledge across products

Ø enforces design discipline

Ø presents arguments for design trade-offs

Ø organizes potentially large design space

Ø capturing contextual information

TYPES OF DR

Argumentation based - the design rationale is primarily used to represent the arguments that define a design [Garcia, 1993]. These arguments consist of issues raised, alternative responses to these issues, and arguments for and against each alternative.

·**History-based** - the rationale consists of the design history – the sequence of events that occurred while performing the design [Garcia, 1993]. This information can be stored in many forms. It

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could be in the form of entries in a design notebook, an archive of e-mail messages, or other types of documents that capture actions taken over time.

·**Device-based** - a model of the device itself is used to both obtain and present rationale [Gruber, 1990]. The explanations of the design would be produced by using the model to simulate the behavior of the device. It would be possible for the user to view the model and ask questions about its design and behavior.

·**Process-based** -- the DR capture is integrated into the design process itself which guides the format of the rationale. In Ganeshan, et. al. [1994], the design description is modified only by changes to and refinements of the design objectives, thus capturing the rationale as part of the design process.

·**Active document-based** - the DR is pre-generated and stored in the system. In these systems, the designer creates the design and the DR system generates the rationale for it based on the system's stored knowledge. For each decision made, the system compares the decision made by the user with the decision that it would have made based in its knowledge. If the actions of the user conflict with the system recommendations, they are given the option of changing their decision or modifying some of the criteria.

Q.4:- 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

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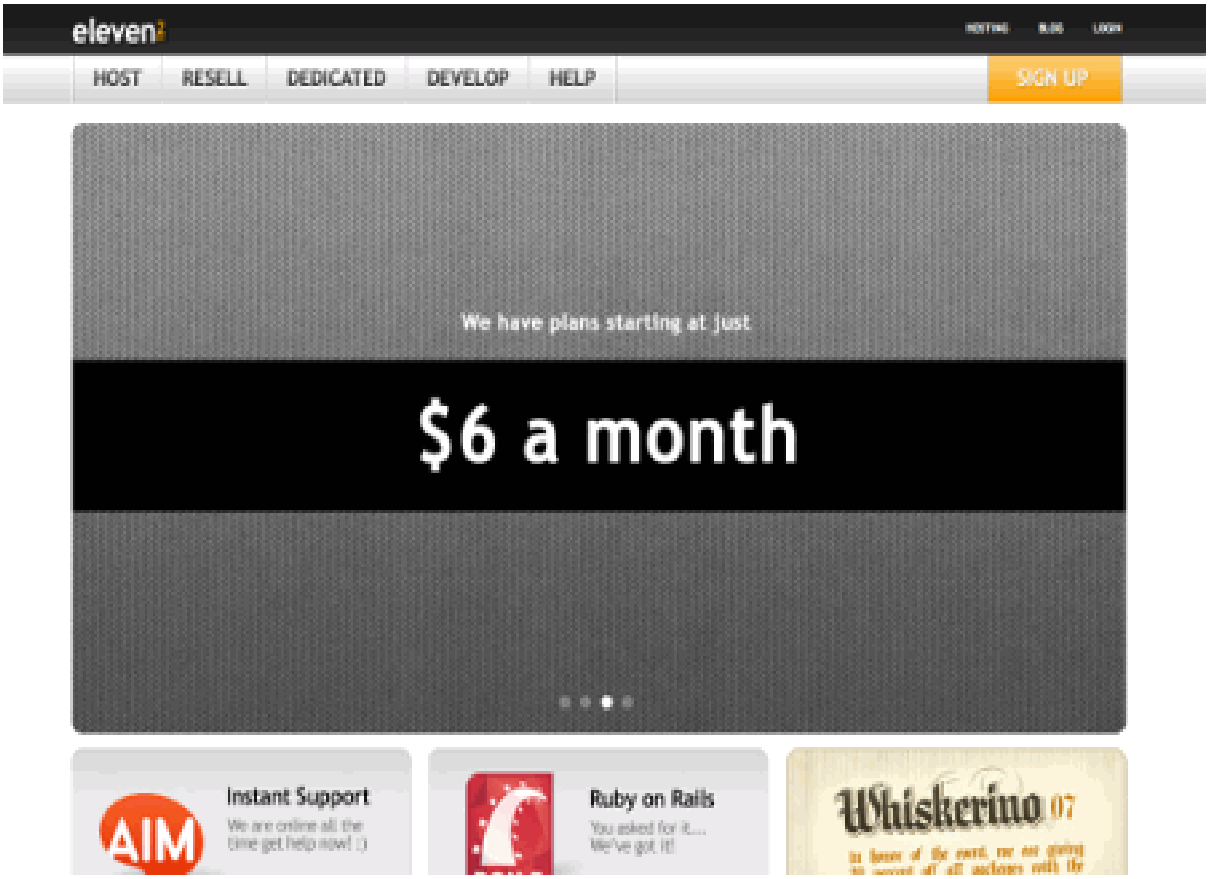
in your answer. To provide the relevant examples browse the internet.

Ans:- Good web page that illustrates the principle of consistency. Talk business. Avoid cute or clever names, marketing-induced names, company-specific names, and unfamiliar technical names. For instance, if you describe a service and want users to create an account, “sign up” is better than “start now!” which is again better than “explore our services”.



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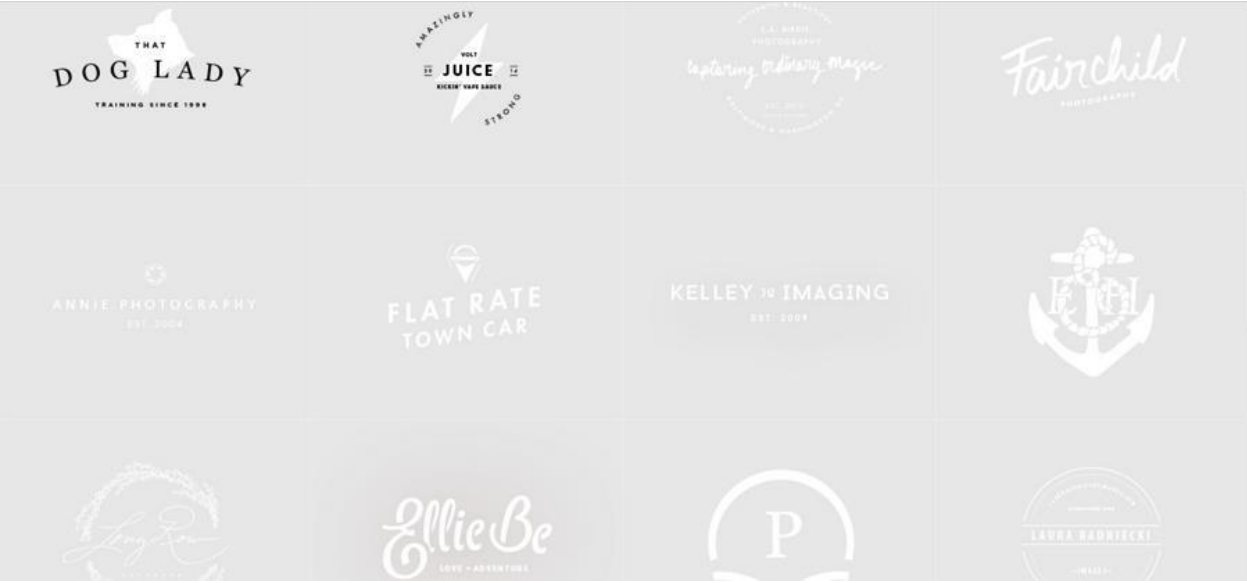
Eleven2.com gets directly to the point. No cute words, no exaggerated statements. Instead a price: just what visitors are looking for.

Bad web page that illustrates the principle of consistency

Clear and powerful contrast between the elements can help users to know what is the core info of the page. It helps the user to better read and understand the info. On this site, the background color and text color are pretty much similar, leaving a very weak contrast. The poor contrast makes the text become blurry to the eye. Besides, the small font size makes the readability of the text extremely poor.

www.typesetdesign.com



A good web design should make sure that the text and pictures are highly readable. Actually, it’s not hard to improve the readability, just make use of everything - the color, space, and size to make them have high contrast. For example, good use of typography makes

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highlights the important information by different font sizes, and the contrast between the colors strengthens the visual effects.

Q.5:- Write the Shneiderman's 8 Golden Rules.

Strive for consistency:-Consistent sequences of actions should be required in similar situations; identical terminology should be used in prompts, menus, and help screens; and consistent color, layout, capitalization, fonts, and so on, should be employed throughout.

2. Seek universal usability:- Recognize the needs of diverse users and design for plasticity, facilitating transformation of content. Novice to expert differences, age ranges, disabilities, international variations, and technological diversity each enrich the spectrum of requirements that guides design.

3. Offer informative feedback:- For every user action, there should be an interface feedback. For frequent and minor actions, the response can be modest, whereas for infrequent and major actions, the response should be more substantial.

4. Design dialogs to yield closure:- Sequences of actions should be organized into groups with a beginning, middle, and end**.** For example, e-commerce websites move users from selecting products to the checkout, ending with a clear confirmation page that completes the transaction.

5. Prevent errors:- As much as possible, design the interface so that users cannot make serious errors; for example, gray out menu items that are not appropriate and do not allow alphabetic characters in numeric entry fields

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6. Permit easy reversal of actions:- As much as possible, actions should be reversible. This feature relieves anxiety, since users know that errors can be undone, and encourages exploration of unfamiliar options.

7. Keep users in control:- Experienced users strongly desire the sense that they are in charge of the interface and that the interface responds to their actions.

8. Reduce short-term memory load:- Humans' limited capacity for information processing in short-term memory requires that designers avoid interfaces in which users must remember information from one display and then use that information on another display.

Q.6:- You are familiar with internet explorer. Explain any five usability goals in terms of internet explorer. Justify each goal with example

Ans:- Usability is broken down into the following goals:

1. Effective to use

2. Efficient to use (efficiency)

3. Safe to use (safety)

4. Have good utility

5. Easy to learn (learnability)

1. Effectiveness: It is a very general goal and refers to how good a system at doing what it is suppose to do.

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2.Efficiency: It refers to the way a system supports users in carrying out their tasks.

3.Safety: It involves protecting users from dangerous situations and undesirable situations. In relation to the first ergonomics aspect, it refers to the external conditions where people work.

4.Utility: It refers to the extent to which the system provides the right kind of functionality so that user can do what they need or want to do:

5.Learnability: It refers to how easy a system is to learn to use. It is well known that people do not like spending a long time learning how to use a system

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