Final Term Assignment

Human Computer Interaction

Name: Umair khan

ID No :6949

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Submitted To: Sir Shahab Ul Islam

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Question 1:

Answer

Following are some of the issues of the chair

- **Adjustability-** The chair cannot be adjusted in different angles.
- **Seat height range** - the seat height cannot be adjusted to the height recommended for the worker(s) who will use it.
- **Backrest** - the backrest is not adjustable and will fail to provide support in both backward and frontward direction.
- **Seat surface –** The seat surface is not comfortable.
- **Armrests –** armrests are not provided and cannot support the arms of the user.

Question 2:

Paradigm are Predominant theoretical frameworks or scientific world views it is also a is a distinct set of concepts or thought patterns, including theories, research methods, postulates, and standards for what constitutes legitimate contributions to a field.

Paradigm Shift

A paradigm shift is a major change in the concepts and practices of how 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.

Example

The internet created a paradigm shift in the way business is conducted. Email and scan replaced the fax machine and courier services. Orders for securities can now be placed directly by the client via the Internet and are sometimes executed in seconds.

Question3:

A design rationale is the explicit listing of decisions made during a design process, and the reasons why those decisions were made. It is to support designers by providing a mean to record and communicate the argumentation and reasoning behind the design process.

Types of design rationale

Rationale can be classified into several types. These types are not mutually exclusive and some systems may support multiple types of rationales.

- **Argumentation based** - the design rationale is primarily used to represent the arguments that define a design. 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. This information can be stored in many forms. It 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. 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, 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.

Question 4:

Good web page that illustrates the principle of consistency.

https://www.yahoo.com/

Yahoo is one of the pioneers in the top 10 most popular websites in 2017 rating. It is the oldest and second most visited search engine on the web. The site was founded in January 1994 by Jerry yang and David Filo, electrical engineering graduate students from Stanford University. They created a website, named "Jerry and David's Guide to the World Wide Web".

Apart from its globally recognized web portal, search engine Yahoo! Search, the site provides a lot of services, including Yahoo! Directory, Yahoo! Mail, Yahoo! News, Yahoo! Finance, Yahoo! Groups, Yahoo! Answers, advertising, online mapping, video sharing, etc. There are 700 million active monthly users on Yahoo. However, in the era of Google and Facebook, the website is facing difficulties to make its positions in the list.

When it comes to stats, the site is ranked number 6th globally and, in the US,, with a substantial number of visitors coming from India, Taiwan, Indonesia, and Brazil.

Bad web page that illustrates the principle of consistency

http://www.gatesnfences.com/

This Florida-based company might have a site design that's stuck in the past, but they've also decided that the best way to encourage user engagement is to completely bombard them with information on the homepage. A few small, low quality images are scattered throughout the page, but nothing to break up the large amount of text.

Question 5:

Following are the 8 golden rules of Schneider man

1. **Strive for Consistency**- Designing "consistent interfaces" means using the same design patterns and the same sequences of actions for similar situations. This includes, but isn't limited to, the right use of color, typography and terminology in prompt screens, commands, and menus throughout your user journey.
2. **Enable Frequent Users to Use Shortcuts-** Speaking of using UI rules as shortcuts, your users will benefit from shortcuts as well, especially if they need to complete the same tasks often. Expert users might find the following features helpful:

- Abbreviations
- Function keys
- Hidden commands
- Macro facilities

3. **Offer Informative Feedback-** You need to keep your users informed of what is happening at every stage of their process. This feedback needs to be meaningful, relevant, clear, and fit the context.
4. **Design Dialog to Yield Closure-** Let me explain. Sequences of actions need to have a beginning, middle and end. Once a task is completed, give some peace of

mind to your user by providing them informative feedback and well-defined options for the next step if that's the case. Don't keep them wondering!

5. **Offer Simple Error Handling-** A good interface should be designed to avoid errors as much as possible. But when errors do happen, your system needs to make it easy for the user to understand the issue and know how to solve it. Simple ways to handle errors include displaying clear error notifications along with descriptive hints to solve the problem.

6. **Permit Easy Reversal of Actions-** It's an instant relief to find that "undo" option after a mistake is made. Your users will feel less anxious and more likely to explore options if they know there's an easy way to reverse any accidents.

7. **Support Internal Locus of Control-** It's important to give control and freedom to your users so they're able to feel they're in charge of the system, not the other way round. Avoid surprises, interruptions, or anything that hasn't be prompted by the users.

8. **Reduce Short-Term Memory Load-** Our attention span is limited and anything we can do to make our users' job easier, the better. It's simpler for us to recognize information rather than recall it. Here, we can refer to one of Nielsen's principles describing "recognition over recall. If we keep our interfaces simple and consistent, obeying to patterns, standards and conventions, we are already contributing to better recognition and ease of use.

Question 6:

Internet explorer has supported its user from a very long time and was one of the first browsing software in the history. There are five different usability goals of internet explorer which are as follow

- **Effectiveness—**It supports users in completing actions accurately.
- **Example-** when a user searches anything on the internet explorer it completes its search in seconds while giving a large number of options.
- **Efficiency**—Users can perform tasks quickly through the easiest process.
- **Example**- The user can easily search anything on the default google search bar.
- **Engagement**—Users find it pleasant to use and appropriate for its industry/topic.
- **Example**- The user can engage with others while using its own profile or web page and can use it for digital marketing and online businesses.
- **Error Tolerance**—It supports a range of user actions and only shows an error in genuine erroneous situations. You achieve this by finding out the number, type and severity of common errors users make, as well as how easily users can recover from those errors.

- **Example**- The server rarely gives any errors and only after the user types anything wrong and gives suggestions to the user so that he/she can continue their work.
- **Ease of Learning**—New users can accomplish goals easily and even more easily on future visits.
- **Example**- the explorer is easy to use it has straight forward commands and can be used by beginners very easily. The user only has to type in the search bar and can program any command they want.