**HUMAN COMPUTER INTERACTION**

**(Review Questions & Answers)**

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| 1 | List three physical considerations that HCI design addresses. |
| Ans: | Three Physical Considerations in HCI design:-  1- Vision  2- Hearing  3-Touch |
| 2 | What are five objectives for designing Interfaces? |
| Ans: | Following are the five objectives of designing user interfaces:   * Match the user interface to the task. * Make the user interface efficient. * Provide appropriate feedback to users. * Generate usable queries. * Improve productivity of computer users. |
| 3 | Define natural-language interfaces. What is their major drawback? |
| Ans: | Natural-language interfaces are perhaps the dream and ideal of inexperienced users, because they permit them to interact with the computer in their everyday, or natural, language. No special skills are required of the user , who interact with the computer using natural language.  Drawback:   1. Emerging technology- still contains bugs 2. Difficulty in dealing with homonyms 3. Difficult to recognise all the different way of saying things 4. Artificial language are often more precise |
| 4 | Explain what is meant by question-and-answer interfaces. To what kind of users are they best suited? |
| Ans: | In question-and-answer interface, the computer displays a question to the user on the display. To interact , the user enter the answer(via a keyboard or a mouse click), and the computer then acts on that input information in a preprogrammed manner, typically by moving to the next question.  New users may find the question-and-answer interface most comfortable. |
| 5 | Describe how users use onscreen menus? |
| Ans: | When a list of options is provided to user on screen of computer for selection and completing his/her task then, this type of interface is known as onscreen menu interface. |
| 6 | What is a nested menu. What are its advantages? |
| Ans: | Menus can be nested within one another to lead a user through options in a program. Advantages:  Nested menus allows a screen to appear less cluttered, which is consistent with good design.  They also allow users to avoid seeing menu options in which they have no interest. Nested menus can also move users quickly through the program. |
| 7 | Define onscreen input/output forms. What is there chief advantage? |
| Ans: | 1) Form-fill interface consist of onscreen forms displaying fields  containing data items or parameters that need to be  communicated to the user. The form often is a facsimile of a  paper form already familiar to the user.  2) The chief advantages of the input/output form interface is that  the printed version of the filled-in form provides excellent  documentation. |
| 8 | What are the advantages of Web-based fill-in-forms? |
| Ans: | 1- Web forms can return incomplete forms to the user with an  explanation of what data must be entered to complete the  transaction.  2- Web-based documents can be sent directly to billing if a  transaction is involved, or they can go directly to a real-time  database if a survey is being submitted.  3- Web-based forms push the responsibility for accuracy to the  user and make the form available for completion and  submission on a 24-hour, 7-day-a-week, worldwide basis. |
| 9 | Explain what command-language interfaces are. To what types of users are they best suited? |
| Ans: | 1- A command-language interface allows the user to control the  application with a series of key-strokes, commands, phrases, or  some sequence of these three methods.  2- The command language has no inherent meaning for the user,  and that fact makes it dissimilar to the other interfaces  discussed so far.  3- Command-language manipulates the computer as a tool by  allowing the users to control the dialog.  4-Command-language affords the user more overall flexibility  and control.  5- Experienced users tend to prefer command language, possibly  because of their faster completion time. |

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| 10 | List four practical ways that an analyst can improve the ease of users navigation and the stickiness of an ecommerce website. |
| Ans: | |  | | --- | | There are four ways to design easy ,one-click navigation for an ecommerce site: | | 1.creating a rollover menu | | 2.building a collection of hierarchical links so that the home page becomes an outline of the key topic heading associated with the website. | | 3.placing  a site map on the home page and emphasizing the link to it | | 4.placing a navigational bar on every inside page(usually at the top or on the left side of the page) that repeats the categories used on every entry screen | |
| 11 | What are hypertext links?where should they be used? |
| Ans: | Hyperlinks can be embedded to allow the user to jump to the relevant help screens  Or to view more information.  Hyperlinks are typically highlighted with underlining, italics, or a different color.  Hyperlinks can be graphics, text, or icons |
| 12 | List in shorthand notation the six basic query type. |
| Ans: | Query type 1:  The entity and one of the entity’s attributes are given.the purpose of the query is the find the value.  Notation : V <- (E,A)  Where V stands for value,E for entity,A for attribute  Query type 2:  This query type is to find an entity or entities when an attribute and value are given.  Notation : E <- (V,A)  Query type 3:  The purpose of this query type is to determine which attributes fit the description provided when the entity and value are given  This query is useful when many similar attributes have the same property.  Notation : A <- (V,E)  Query type 4:  This is similar to query 1.the difference is that the values of all attributes are desired.  Notation : all  V <- (E, allA)  Query type 5:  This is another global query,but it is similar in form of query type 2.  Notation : all E <- (V, all A)  Query type 6:  This is same as query 3.the difference is that query type 6 requests a listing of the attributes for all entities rather than a particular entity.  Notation : all A <- (V,all E) |
| 13 | List three ways to notify a web user that input is not in correct form. |
| Ans: | 1- one way to inform the user is to generate a window that briefly describes the problem with the input and explains how the user can correct it  2- Another method is to return a new page with the message on the side of the field containing the error. The new Web page may have a link for additional help.  3- A message box or audible beeps may be used to alert the users that one or more errors have occurred. |
| 14 | Why is it unacceptable to notify the user that input is not correct solely through the use of  audible beeping or buzzing? |
| Ans: | Audio feedback alone is not descriptive, so it is not as helpful to users as onscreen instructions.  Use audio feedback sparingly, perhaps to denote urgent situations. The same advice also applies to the design of Web sites, which may be viewed in an open office, where sounds carry and a coworker’s desktop speakers are within earshot of several other people. |
| 15 | When a request is not completed, what feedback should be provided to the user? |
| Ans: | Feedback is also needed to let the user know that the computer is unable to complete a request. If the display reads “Unable to process request. Check request again”. |
| 16 | Describe two types of Web site designs for eliciting feedback from customer. |
| Ans: | 1- The first way is to launch the user’s email program with the email address of the company’s contact automatically entered into the To: field. This method prevents typing errors and facilitates ease in contacting the organization.  2- The second type of design for garnering feedback from customers using an ecommerce Website is to take users to a blank message template when they click on Feedback. Some Web creation tools permit you to create and insert a feedback form into your site easily. This form might begin with a header that states “Company X Feedback” and then “You can use the form below to send suggestions, comments, and questions about the X site to our  Customer Service team.” |
| 17 | What are the three guidelines for designing good screen dialog ? |
| Ans: | Following are the three guidelines for designing good screen dialog  1.Meaningful communication, so that the computer understands what people are entering and people understand what the computer is presenting or requesting.  2.Minimal user action.  3.Standard operation and consistency. |
| 18 | What are the roles of icons , graphics and color in providing feedback ? |
| Ans: | Icons are an essential part of many user interfaces, visually expressing objects, actions and ideas. When done correctly, they communicate the core idea and intent of a product or action, and they bring a lot of nice benefits to user interfaces, such as saving screen real real estate and enhancing aesthetic appeal.  A graphic also plays an inportatnt role in , as he graphics change should be immediate and appropiate , a slight change in visual can be found annoying for user if the systems delays due to some technical Problem.  The colour scheme for a website can contribute to the overall brand perception products or services. Color certainly plays its part in delivering a better user experience on websites. In particular, the right choice of color will ensure the usability and legibility of information displayed on screen. |
| 19 | List eight ways for achieving the goal of minimal operator action when designing a user interface. |
| Ans: | Following are the eight ways for achieving the goal of minimal operator action when designing a user interface.  1.Keying codes , such as airport code when making a flight reservation, instead of whole words on entry screen.  2.Entering only data that are not already stored on files.  3.Supplying the editing characters.  4.Using default values for fields on entry screens.  5.Designing an inquiry program so that the user needs to enter only the first few characters of a name or item description.  6.Providing keystrokes for selecting pull down menu options  7. Use radio buttons and drop-down lists to control display of new web pages or to change web forms.  8.Providing cursor control for web forms and other display so that the cursor moves to the next field when the right number of characters has been entered. |
| 20 | List Five standards that can aid in evaluating user interface. |
| Ans: | While evaluating interfaces , following are the standard that can aid in evaluating user interface  1.The neccesary training period for users should be acceptably short .  2.Early in their training , users should be able to enter commands without thinking about them or without referring to a help menu or manual. Kepping interfaces consistent throughout application can help in this regard.  3.The interface should be seamless so that errors are few and those that do occur are not occuring because of poor design.  4.The time that user and the system need to bounce back from errors should be short.  5.Infrequent users should be able to relearn the system quickly. |
| 21 | What are the seven situation that requires feedback for user? |
| Ans: | Seven situation that requires feedback for user are  1.Acknowledging acceptance of input  2.Recognizing that input is in the correct form  3.Notifying that input is not in the correct form  4.Explaining a delay in processing  5.Acknowledging that a request is completed  6.Notifying that a request was not completed  7.Offering the user more detailed feedback |
| 22 | What is an acceptable way of telling the user that input was accepted? |
| Ans: | An effective way to telling the user that input was accepted is by displaying a feedback message when the action or process of input is completed. |
| 23 | Define HCI. |
| Ans: | Ensuring system functionality and usability, providing effective user interaction support, and enhancing a pleasant user experience. |
| 24 | Explain how fit among the HCI elements of the human , the computer , and the task to be perform leads to performance and well-being. |
| Ans: | Analysts want the best fit in their design. You want to make the best possible us of people in designing a computerized task that is intented to meet an organizational objective. |
| 25 | What are the components of the term performance in the HCI context? |
| Ans: | The term performance refers to a combination of the efficiency involved in performing a task and the quality of the work that is produced by the task. |
| 26 | What is meant by the word "Well-being" when used in an HCI Approach ? |
| Ans: | We can introduce te concept of well-being which is a concern for a human's overall comfort , safety , and health; in sum , it is their physical as well as psychological state. |
| 27 | What are the two variables of the Technogy Acceptance Model (TAM) ? |
| Ans: | The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably:  Perceived usefulness (PU) – the degree to which a person believes that using a particular system would enhance his or her job performance.  Perceived ease-of-use (PEOU) –the degree to which a person believes that using a particular system would be free from effort. |