

Assignment 3

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1. Describe three principles of direct manipulation.

Ans:

Three principles of direct manipulations are:

- Continuous representations of the objects and actions of interest with meaningful visual metaphors.
- Physical actions or presses of labeled buttons, instead of complex syntax
- Rapid, incremental, reversible actions whose effects on the objects of interest are visible immediately.

2. Give four benefits of direct manipulation. Also list four problems of direct manipulation.

Ans:

Four benefits:

- Novices can learn basic operation quickly.
- Expert can work rapidly to carry out a wide range of tasks.
- User immediately can see whether their actions are moving towards their goals. If not, they can reverse the direction.
- User satisfaction increases as users have more control of the systems.

Four problems of direct manipulations:

- Visual representation can be too spread out
- Visual representation may be misleading
- The requirement for a lot of screen space may be cumbersome.
- It might increase difficulty for visually impaired people

3. Examining the success of video games can provide insight for interface designers. Explain what lessons can be learned by videogames for interface design, but also provide examples of areas where it is ineffective to do so.

Ans:

Videogames have 3-D animation as an interface to play the games, which makes the user more interactive. The physical actions—such as button presses, joystick or knob rotations—are used to play the game interactively. These features have increased user satisfaction and could be applied to office automation, personal computing, or other interactive environments. However, video games are entertainment programs and not practical devices. So for practical systems, these features may seem inappropriate. Game players are involved in playing games with the system or other players, where different application users prefer to have an internal focus and control on their application.

4. An airline company is designing a new on-line reservation system. They want to add some direct-manipulation features. For example, they would like customers to click a map to specify the departure cities and the destinations, and to click on the calendar to indicate their schedules. From your point of view, list four benefits and four problems of the new idea compared with their old system, which required the customer to do the job by typing text. You are in charge of designing a menu tree for navigating 1,250 books in a digital library. Present an argument of whether the menu should have larger depth (number of levels) or breadth (number of items per level).

Ans:

Four advantages:

- If user don't know the airport name, they can find their destination from the maps.

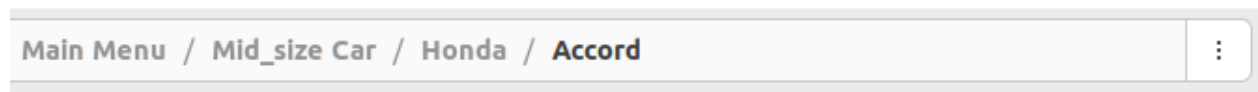


Figure 1: Fig. for Q.6. Navigation that will show the user his current position

- Novices or armature users might find it useful to chose the flight destination and date from the calendar
- User can find the specific date very easily form the calendar.
- Chance of errors is very low.

Four disadvantages:

- If you know the airport name or code , its easier to find from the list than selecting form the maps.
- Expert user can type the date/airport name easily and can save time.
- It might be harder to find the correct airport from the map when there is multiple airport in the same city.
- Tough to see for visually impaired people.

I think the tree should have a larger breadth. For example, all books can be categorized into different genres. After clicking a genre, related books will appear as items.

5. Frequent menu users can become annoyed if they must make several menu selections to complete a simple task. Suggest two ways you can refine the menu approach to accommodate expert or frequent users.

Ans:

Two approaches:

- There could be shortcut for more frequently visited operations. This will help the frequent user
- There could be option for typing the command for performing specific task. This will help the expert users.

6. When users are navigating through a menu structure, they may become disoriented. The authors suggest techniques to help alleviate this disorientation such as indicating the current position in the menu. Draw a sketch of how you can show users their position for an on-line car showroom, assuming the user has browsed with the following path:

Main Menu -> Mid-size Cars -> Honda -> Accord

Ans:

I will show the navigation in the top of the interface so that user can find his current location easily(See Fig. 1).

7. Critique the design of the dialog box below in the text. This dialog box is used to alert clinicians who try to prescribe the drug Warfarin, because it increases the risk of bleeding in patients already on Aspirin.

Ans:

From the buttons, it is not clear what they do. Displayed message must be as clear as possible. There is no consistency in the message displayed in the button. It could be something like this,

"Keep only Asprin" , "Keep only Warfarin." and "Keep both Aspirin and Warfarin".

8. Some designers suggest that speech recognition should be used in a telephone menu system. This would allow users to interact with the system by speaking instead of pressing buttons on the dial pad. Give two arguments for and two arguments against the proposal.

Ans:

Two arguments in favour of the proposal:

- Handicapped person can easily give input using voice command.
- In some cases it might save time of the user. User doesn't need to hear all the Menus. S/he just use the voice command.

Two arguments against the proposal:

- Sometimes it might be harder for the system to recognize the voice commands. So, user might have to give input several times.
- There are multiple diversified people who speak in different language. Its harder to develop a system that can understand all kind of peoples languages.

9. Define when "speech production" is successful and discuss methods for its implementation. Cite examples.

Ans:

Speech production is successful when the users understand it and can interact with it naturally. For example, if they feel the same when they get instructions over the intercom, and interact effectively, then speech production might be considered successful.

10. List several situations when command languages can be attractive for users.

Ans:

Command languages are attractive to people who love multitasking. When your hands are equipped, command language can be useful. It is also attractive to users who are physically handicapped or have impaired vision.