

1.

Which of the following are examples of direct manipulation? (Select ALL that apply)

- ☒ Dragging a file to a trashcan
- ☐ Typing SHIFT-F7 to load a thesaurus
- ☒ Controlling a video-game character on-screen with a joystick.
- ☐ Finding out the contents of a file directory by typing 'ls'.
- ☒ Operating an industrial robot in a warehouse with a pointing device.

2.

By providing visibility of the objects and actions of interest, allowing reversibility of commands, and replacing typed commands with pointing actions, users generally react positively and enthusiastic about the interface.

- ☒ True
- ☐ False

3.

Suppose you are developing a new word processor that boasts more features than any of its competition. What would be the best way for intermittent users to remember all of the commands?

- ☐ Provide detailed on-line help documentation, so the user can look up commands.
- ☒ Provide visual cues, icons, menus and dialog boxes.
- ☐ Allow user to specify commands in their natural language.

4.

Which of the following early systems used principles of direct manipulation?

☒ Xerox Star

☒ Apple Lisa

☐ MS-DOS

☒ HyperCard

☐ Emacs

5.

Which of the following statements are true about direct manipulation? (Select ALL that apply.)

☒ Users can immediately see whether their actions are furthering their goals, and if the actions are counterproductive, they can simply change the direction of their activity.

☐ In order to use the interface, a great deal of training is required from more experienced users.

☒ Designs involving direct-manipulation may consume valuable screen space and force valuable information off-screen.

☒ Users experience less anxiety because the system is comprehensible and because actions can be reversed easily.

☐ Intermittent users have trouble retaining the operational concepts involved in the interface.

6.

Some designers believe that 3D interfaces will make it easier for users to learn because it more closely mimics the real world. Think about the following list of tasks and decided if 3D representations are helpful, and if so, check their corresponding box:

☒ Computer-assisted design (CAD)

☐ File directories

☒ Medical Imagery

☐ Digital libraries



7.

Match the following extensions of direct manipulation with the statement that describes each term best.

A matching question presents 3 answer choices and 3 items. The answer choices are lettered A through C. The items are numbered 7.1 through 7.3. Screen readers will read the answer choices first. Then each item will be presented along with a select menu for choosing an answer choice. Using the pull-down menus, match each item in the left column to the corresponding item in the right column.

7.1 Puts users in an immersive environment in which normal surroundings are blocked out by a head-mounted display that presents artificial worlds.

B

7.2 Keeps users in the normal surroundings and adds a transparent overlay with additional information.

A

7.3 Gives users physical objects to manipulate in order to interact with the interface.

C

A Augmented Reality

B Virtual Reality

C Tangible User Interfaces

8.

If a physical process is controlled from a remote location, it is referred to as teleoperation. What is a primary difference between traditional direct manipulation interfaces and teleoperation?



Remote controlled processes may have slower response, incomplete feedback or more likelihood to breakdown.



Teleoperation involves physical actions and presses of labeled buttons, whereas direct manipulation involves complex syntax.



Reversible actions are not needed in traditional direct manipulation interfaces since the actions are local and therefore mistakes are less likely to occur.

9.

The principles of direct manipulation are not helpful to designers of virtual environments since those environments break the physical limitations of space.



True



False

10.

What is NOT a benefit of direct manipulation?



Encourages exploration.



Faster learning and higher retention.



Visually impaired users may have more difficulty.



Less syntax reduces error rates.