

Internal Assessment Test 5 – February 2022 scheme and solution

Sub:	User Interface Design					Sub Code:	18CS734	Branch:	ISE	ISE	
Date:	9/02/2022	Duration:	90 min's	Max Marks:	50	Sem/Sec:	VII A, B & C			OE	3E
Answer any FIVE FULL Questions								M	ARKS	CO	RBT

1 Discuss the several window management schemes provided by Microsoft

windows.
CO3
L2

Single-Document Interface

Description:

- A single primary window with a set of secondary windows. Proper usage:
- Where object and window have a simple, one-to-one relationship.
- Where the object's primary presentation or use is as a single unit.

Multiple-Document Interface

Description:

- A technique for managing a set of windows where documents are opened into windows.
- Contains:
- A single primary window, called the parent.
- A set of related document or child windows, each also essentially a primary window.
- Each child window is constrained to appear only within the parent window.
- The child windows share the parent window's operational elements.
- The parent window's elements can be dynamically changed to reflect the requirements of the active child window
- 2 Explain window operations in detail?

10

CO3

L2

Active Window

A window should be made active with as few steps as possible.

Visually differentiate the active window from other windows.

Opening a Window

Sizing Windows

Window Placement

Window Separation

Moving a Window

3 Explain slider and tree view operable controls.

10 L2

CO3

Description: — A scale exhibiting degrees of a quality on a continuum.

- Includes the following:
- A shaft or bar.
- A range of values with appropriate labels.
- An arm indicating relative setting through its location on the shaft.
- Optionally, a pair of buttons to permit incremental movement of the slider arm.
- Optionally, a text box for typing or displaying an exact value.
- Optionally, a detent position for special values.

Description:

- A special list box control that displays a set of objects as an indented outline, based on the objects' logical hierarchical relationship.
- Includes, optionally, buttons that expand and collapse the outline.
- A button inscribed with a plus (+) expands the outline.

- A button inscribed with a minus () collapses the outline
 Write a note of the following
 iTrack ball
 - Several specific tasks are performed using graphical systems.
 - To point at an object on the screen.
 - To select the object or identify it as the focus of attention.
 - To drag an object across the screen.
 - To draw something free form on the screen.
 - To track or follow a moving object.
 - To orient or position an object.
 - To enter or manipulate data or information.
 - Description:
 - A spherical object (ball) that rotates freely in all directions in its socket.
 - — Direction and speed is tracked and translated into cursor movement.
 - Advantages: Direct relationship between hand and pointer movement in terms of direction and speed.
 - Does not obscure vision of screen.
 - Does not require additional desk space (if mounted on keyboard).

ii. Joystick	10
CO3	L2

Description:

- A stick or bat-shaped device anchored at the bottom.
- Variable in size, smaller ones being operated by fingers, larger ones requiring the whole hand.
- Variable in cursor direction movement method, force joysticks respond to pressure; movable ones respond to movement.
- Variable in degree of movement allowed, from horizontal-vertical only to continuous.
- Advantages:
- Direct relationship between hand and pointer movement in terms of direction.
- Does not obscure vision of screen.
- Does not require additional desk space (if mounted on keyboard).
- 5 Illustrate the Heuristic Evaluation Process in detail along with a list of research-based set of heuristics.

CO3 L3

Description:

- A detailed evaluation of a system by interface design specialists to identify problems.
- Advantages: Easy to do.
- Relatively low cost.
- Does not waste user's time.
- Can identify many problems.
- Disadvantages:
- Evaluators must possess interface design expertise.
- Evaluators may not possess an adequate understanding of the tasks and user communities.
- Difficult to identify system wide structural problems.
- Difficult to uncover missing exits and interface elements.
- Difficult to identify the most important problems among all problems uncovered.
- Does not provide any systematic way to generate solutions to the problems uncovered

Explain the purpose of prototypes. Discuss any two kinds of prototypes with their importance to the system developers.

CO2

Hand Sketches and Scenarios

- Description: Screen sketches created by hand or a drawing package.
- Focus is on the design, not the interface mechanics.
- A low-fidelity prototype.
- Advantages: Can be used very early in the development process.
- Suited for use by entire design team.
- No large investment of time and cost.
- No programming skill needed.
- Easily portable

Interactive Paper Prototypes

Description:

- Interface components (menus, windows, and screens) constructed of common paper technologies (Post-it notes, transparencies, and so on).
- The components are manually manipulated to reflect the dynamics of the software.
- A low-fidelity prototype. Advantages:
- More illustrative of program dynamics than sketches.
- Can be used to demonstrate the interaction.
- Otherwise, generally the same as for hand-drawn sketches and scenarios.