USN : _____

CMR Institute of Technology, Bangalore
DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING
II - INTERNAL ASSESSMENT

Semester: 8-CBCS 2017 Date: 20 Jun 2021
Subject: USER INTERFACE DESIGN (PE) (17CS832)
Faculty: Dr Anand R
Time: 11:00 AM - 12:30 PM Max Marks: 50

INSTRUCTIONS_TO_STUDENTS_COLON

Answer Any Five Full Questions

ANSWER_ANY 5 Question(s)

Marks CO PO BT/CL

1. List and explain the components of Menu Bar **[10.0] 1 [2] [2]**

Component list – 2marks **Explanation 8 marks**

- A menu must communicate to the user information about:
  - The nature and purpose of the menu itself.
  - The nature and purpose of each presented choice.
  - How the proper choice or choices may be selected.

Menu Titles

- Main menu:
  - Create a short, simple, clear, and distinctive title, describing the purpose of the entire series of choices.
- Submenus:
  - Submenu titles must be worded exactly the same as the menu choice previously selected to display them.
- General:
  - Locate the title at the top of the listing of choices.
  - Spell out the title fully using either an:
    - Uppercase font.
    - Mixed-case font in the headline style.
  - Superfluous titles may be omitted.

Menu Choice Descriptions

- Create meaningful choice descriptions that are familiar, fully spelled out, concise, and distinctive.
- Descriptions may be single words, compound words, or multiple words or phrases.
    - Exception: Menu bar items should be a single word (if possible).
- Place the keyword first, usually a verb.
- Use the headline style, capitalizing the first letter of each significant word in the choice description.
- Use task-oriented not data-oriented wording.
- Use parallel construction.
- A menu choice must never have the same wording as its menu title.
- Identical choices on different menus should be worded identically.
- Choices should not be numbered.
    - — Exception: If the listing is numeric in nature, graphic, or a list of varying items, it may be numbered.

If menu options will be used in conjunction with a command language, the capitalization and syntax of the choices should be consistent with the command language.

- Word choices as commands to the computer.

Menu Instructions

- For novice or inexperienced users, provide menu completion instructions.
  — Place the instructions in a position just preceding the part, or parts, of the menu to which they apply.

    • Left-justify the instruction and indent the related menu choice descriptions a minimum of three spaces to the right.

    • Leave a space line, if possible, between the instructions and the related menu choice descriptions.

  — Present instructions in a mixed-case font in sentence style.

- For expert users, make these instructions easy to ignore by:

  — Presenting them in a consistent location.

  — Displaying them in a unique type style and/or color.

Intent Indicators

- Cascade indicator:

  — To indicate that selection of an item will lead to a submenu, place a triangle or right-pointing solid arrow following the choice.

  — A cascade indicator must designate every cascaded menu.

- To a window indicator:

  — For choices that result in displaying a window to collect more information, place an ellipsis (. . .) immediately following the choice.

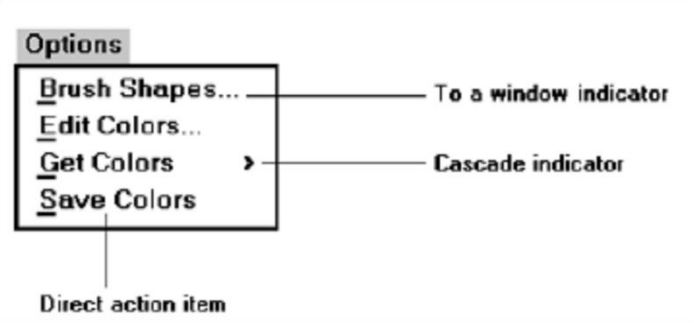
    - Exceptions—do not use when an action:

      – Causes a warning window to be displayed.

      – May or may not lead to a window.

- Direct action items:

  — For choices that directly perform an action, no special indicator should be placed on the menu.



Keyboard Equivalents

Location

- Position choices horizontally over the entire row at the top of the screen, just below the screen title.
- A large number of choices may necessitate display over two rows.

Title

- The window title will be the menu bar title.

Item Descriptions

- The menu item descriptions must clearly reflect the kinds of choices available in the associated pull-down menus.
- Menu item descriptions will be the “titles” for pull-down menus associated with them.
- Use mixed-case letters to describe choices.
- Use single-word choices whenever possible.
- Do not display choices that are never available to the user.

Organization

- To facilitate keyboard selection of a menu choice, each menu item should be assigned a keyboard equivalent mnemonic.
- The mnemonic should be the first character of the menu item’s description.
  - If duplication exists in first characters, use another character in the duplicated item’s description.
  - Preferably choose the first succeeding consonant.
- Designate the mnemonic character by underlining it.
- Use industry-standard keyboard access equivalents when they exist.

Keyboard Accelerators

- For frequently used items, provide a keyboard accelerator to facilitate keyboard selection.
- The accelerator may be one function key or a combination of keys.
  - Function key shortcuts are easier to learn than modifier plus letter shortcuts.
- Pressing no more than two keys simultaneously is preferred.
  - Do not exceed three simultaneous keystrokes.
- Use a plus (+) sign to indicate that two or more keys must be pressed at the same time.
- Accelerators should have some associative value

2a. What are default Menu items? Explain **[5.0] 1 [1] [2]**

5 marks

File

A standard element, the File menu provides all the commands needed to open, create, and save files. Some standard File functions are:

New Open Close Save Save As Print Preview Print Exit

Edit

A standard element, the Edit menu provides commands that affect the state of selected objects. Some standard Edit functions are:

Undo Cut Copy Paste Select All Find Replace

View

An optional element, the View menu provides commands that affect the perspective, details, and appearance of the application. They affect the view, not the data itself. The view functions are application-specific and include the following:

Toolbars Status Bar Magnify Zoom In Zoom Out Grid Points

Window

The Window menu, an optional element, provides commands to manipulate entire windows. Included are items such as:

New Window Arrange All Hide Show

Help

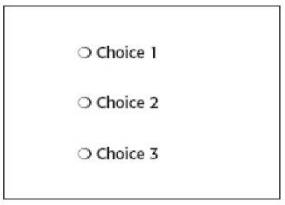
The Help menu, a standard element, provides Help commands, including:

Contents Search for Help on How to Use Help About (Application)

2b. Explain the structures of Menus in briefly **[5.0] 1 [1] [2]**

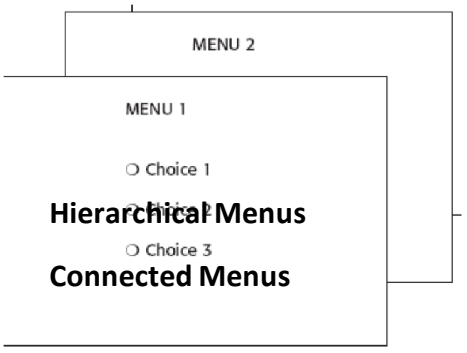
Menus Explanation 5 marks

Single Menus



Sequential Linear Menus

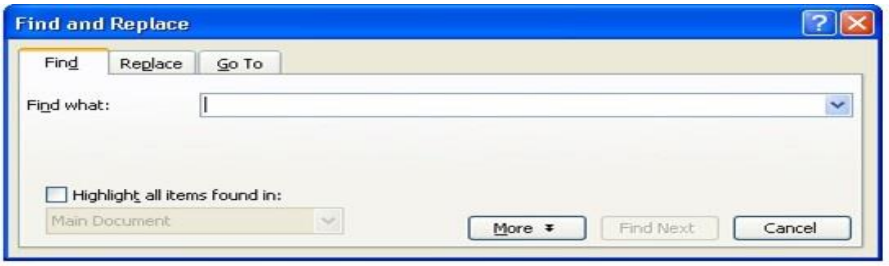
Simultaneous Menus



Hierarchical Menus

Connected Menus

3a. Identify the type of menu in the given picture? Explain its operations **[5.0] 1 [2] [3]**



Dialog Boxes 1 mark
Any Five operations- 4 marks

Find

Replace,

More

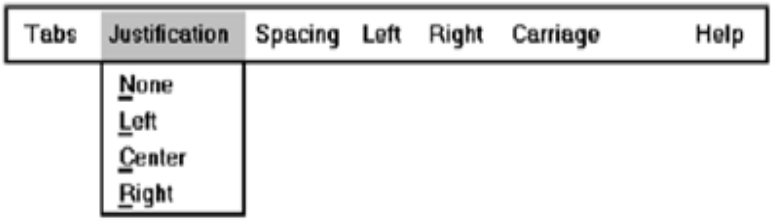
Cancel

Help

Close

3b. Identify the type of menu in the given picture? Write the advantages and disadvantages

[5.0] 1 [2] [3]



Pull-Down Menu

- Proper usage:

  — To initiate frequently used application actions that take place on a wide variety of different windows.

  — A small number of items.

  — Items best represented textually.

  — Items whose content rarely changes.

- The advantages of pull-down menus are:
  - The menu bar cues a reminder of their existence.
  - They may be located relatively consistently on the screen.
  - No window space is consumed when they are not used.
  - They are easy to browse through.

- Their vertical orientation is most efficient for scanning.
- Their vertical orientation is most efficient for grouping.
- Their vertical orientation permits more choices to be displayed.
- They allow for display of both keyboard equivalents and accelerators.

- The disadvantages of pull-down menus are:

Display

- They require searching and selecting from another menu before seeing options.
- They require looking away from main working area to read.
- The require moving the pointer out of working area to select (unless using
- keyboard equivalents).
- The items are smaller than full-size buttons, slowing selection time.

4. List and explain the components of a Window **[10.0] 1 [1] [2]**

List window components -2 marks

Explanation – 8 marks

Table 5.1 Microsoft Windows Components

COMPONENT	WINDOWS CONTAINING COMPONENT		
	PRIMARY	SECONDARY	DIALOG BOX
Frame or Border • Boundary to define shape. • If sizable, contains control points for resizing.	X	X	X
Title Bar Text • Name of object being viewed in window. • Control point for moving window.	X	X	X
Title Bar Icon • Small version of icon for object being viewed. • Access point for commands that apply to the object.	X		
Title Bar Buttons • Shortcuts to specific commands.	X	X	X
Close	X	X	X
Minimize/Maximize/Restore	X		
What's This? — Displays context-sensitive Help about any object displayed on window.		X	X
Menu Bar • Provides basic and common application commands.	X		
Status Bar • An area used to display status information about what is displayed in window.	X		
Scroll Bar • Standard control to support scrolling.	X		
Size Grip • Control to resize window, located at right side of status bar.	X		

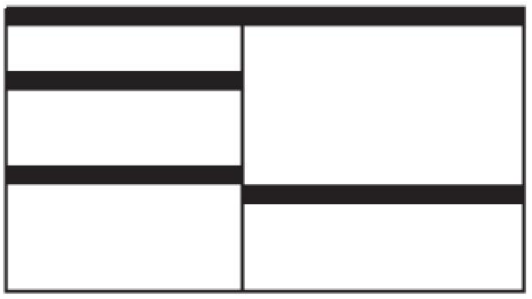
5. What are different presentation styles of windows? Explain **[10.0] 1 [2] [2]**

- The presentation style of a window refers to its spatial relationship to other windows.

- There are two basic styles, commonly called tiled or overlapping.

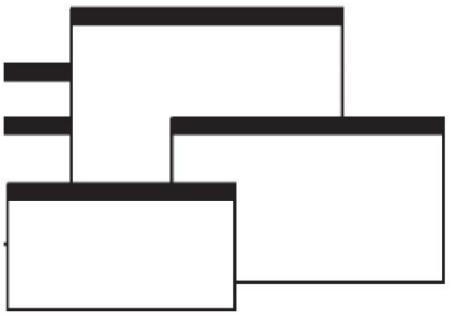
Tiled Windows

- The presentation style of a window refers to its spatial relationship to other windows.
- There are two basic styles, commonly called tiled or overlapping.



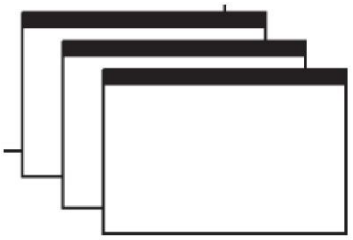
Overlapping Windows

- Overlapping windows may be placed on top of one another like papers on a desk.
- They possess a three-dimensional quality, appearing to lie on different planes.



Cascading Windows

- A special type of overlapping window has the windows automatically arranged in a regular progression.
- Each window is slightly offset from others, as illustrated in Figure



6. List and Explain device based controls used in windows **[10.0] 1 [3] [2]**

Device-based controls, often called input devices, are the mechanisms through which people communicate their desires to the system.

Characteristics of Device-Based Controls

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.

Trackball

Joystick

Graphic Tablet

Touch Screen

Light Pen

Light Pen

Mouse

Keyboard