

	<u>internal Assessment Test 2 – November 2024</u>								
Sub:	User interface design Code: 211					21IS733			
Date:	20/11/2024	Duration:	90 mins	Max Marks:	50	Sem:	VII	Branch:	ISE

# <u>Scheme of Evaluation</u> <u>Internal Assessment Test 2 – November 2024</u>

# Note: Answer Any five full questions.

-	uesti n #	Description	Marks Distribution		Max Marks
1	a) b)	<ul> <li>List the models for determining basic business function.</li> <li>Explain the models in detail with proper examples.</li> <li>Basic business function intro &amp; 3 models list</li> <li>Understanding User Mental model</li> <li>Develop a conceptual model of the system.</li> <li>User's New Mental model</li> </ul>	2M 8M 2M 3M 4M 1M	10M	10M
2	a) b)	What is requirement analysis? Explain the different requirement analysis techniques using suitable examples. Definition Reqmt. Analysis Any 9 techniques both Direct and Indirect	1M 1M*9	10M	10M
3		An organization is implementing a menu based application that simulates the operation of core processes and procedures. Analyze the different types of menu structure that is required in the application and their usage for the execution of the processes.	21/45	10M	10M
		Any 5 types of menu structures with description.	2M*5		

4	Describe the components of web navigation system with illustration. Navigational Controls Any 4 components with description	2M 2M*4	10M	<b>10M</b>
5	Explain formatting the menus and Phrasing the menus Formatting the menus Phrasing the menus	6M 4M	10M	<b>10M</b>
6	Write short notes on Pop-up menus, Pull down menu and Menu bar. Pop Up Menu Pull Down Menu Menu Bar	3M 5M 2M	10M	<b>10M</b>

### <u>Scheme of Evaluation</u> Internal Assessment Test 2 – November 2024

Sub:	User Interface Design						Code:	2118733
Date:	19/11/2024	Max Marks:	50	Sem:	VII	Branch:	ISE	

# Note: Answer Any full five questions

Q. 1 Discuss the models for determining basic business function

# **Determining Basic Business Functions**

- A detailed description of what the product will do is prepared.
- Major system functions are listed and described, including critical system inputs and outputs.

The process the developer will use is summarized as follows:

- a) Gain a complete understanding of the user's mental model based upon:
- The user's needs and the user's profile.
- A user task analysis.
- 2.2 Develop a conceptual model of the system based upon the user's mental model. This includes:
  - Defining objects.
  - Developing metaphors.

# Understanding the User's Mental Model

- "Understand the User or Client," and the requirements analysis
- A goal of task analysis, and a goal of understanding the user, is to gain a picture of the user's mental model.
- A mental model is an internal representation of a person's current conceptualization and understanding of something.
- Mental models are gradually developed to understand, explain, and do something.
- Mental models enable a person to predict the actions necessary to do things if the actions have been forgotten or have not yet been encountered.

# Performing a Task Analysis

- Task analysis involves breaking down the user's activities to the individual task level.
- The goal is to obtain an understanding of why and how people currently do the things that will be automated.
- Task analysis also provides information concerning workflows, the interrelationships between people, objects, and actions, and the user's conceptual frameworks. The output of a task analysis is a complete description of all user tasks and interactions.
- One result of a task analysis is a listing of the user's current tasks. This list should be well documented and maintained. Changes in task requirements can then be easily incorporated as design iteration occurs.

• Another result is a list of objects the users see as important to what they do.

The objects can be sorted into the following categories:

- Concrete objects things that can be touched.
- People who are the object of sentences normally organization employees, customers,
  - for example.
- Forms or journals things that keep track of information.
- People who are the subject of sentences normally the users of a system.
- Abstract objects anything not included above.

# **Developing Conceptual Models**

- A conceptual model is the general conceptual framework through which the system's functions are presented.
- Such a model describes how the interface will present objects, the relationships between objects, the properties of objects, and the actions that will be performed.
- A conceptual model is based on the user's mental model. Since the term mental model refers to a person's current level of knowledge about something, people will *always have them.*
- The goal of the designer is to facilitate the development of useful mental models of the system for the user.

# Guidelines for Designing Conceptual Models

- Reflect the user's mental model, not the designer's.
- Draw physical analogies or present metaphors.
- Comply with expectations, habits, routines, and stereotypes.
- Provide action-response compatibility.
- Make invisible parts and process of a system visible.
- Provide proper and correct feedback.
- Avoid anything unnecessary or irrelevant.
- Provide design consistency.
- Provide documentation and a help system that will reinforce the conceptual model.
- Promote the development of both novice and expert mental models.

# **Defining Objects**

Determine all objects that have to be manipulated to get work done. Describe:

- The objects used in tasks.
- Object behavior and characteristics that differentiate each kind of object.
- The relationship of objects to each other and the people using them.
- The actions performed.
- The objects to which actions apply.

— State information or attributes that each object in the task must preserve, display, or allow to be edited.

- Identify the objects and actions that appear most often in the workflow.
- Make the several most important objects very obvious and easy to manipulate.

# **Developing Metaphors**

A metaphor is a concept where one's body of knowledge about one thing is used to understand something else. Metaphors act as building blocks of a system, aiding understanding of how a system works and is organized.

Choose the analogy that works best for each object and its actions.

- Use real-world metaphors.
- Use simple metaphors.
- Use common metaphors.
- Multiple metaphors may coexist.
- Use major metaphors, even if you can't exactly replicate them visually.
- Test the selected metaphors.

# The User's New Mental Model

- When the system is implemented, and a person interacts with the new system and its interface, an attempt will be made by the person to understand the system based upon the existing mental model brought to the interaction.
- What happens, however, if the new system does not accurately reflect the user's existing mental model? The results include breakdowns in understanding, confusion, errors, loss of trust and frustration.

**Q. 2** What is requirement analysis? Explain the different requirement analysis techniques using suitable examples.

The objective of requirement analysis is to establish the need for a system. A requirement is an objective that must be met. A product description is developed and refined, based on input from users or marketing. There are many techniques for capturing information for determining requirements. Some of the techniques are listed below:

# **Individual Face-to-Face Interview**

• A one-on-one visit with the user to obtain information. It may be structured or somewhat open-ended.

• A formal questionnaire should not be used, however. Useful topics to ask the user to describe in an interview include:

• The activities performed in completing a task or achieving a goal or objective.

- The methods used to perform an activity.
- What interactions exist with other people or systems?
- It is also very useful to also uncover any:

o Potential measures of system usability

o Unmentioned exceptions to standard policies or procedures.

o Relevant knowledge the user must possess to perform the activity.

### **Telephone Interview or Survey**

• A structured interview conducted via telephone.

Advantages

• Arranging the interview in advance allows the user to prepare for it.

• Telephone interviews are less expensive and less invasive than personal interviews.

• They can be used much more frequently and are extremely effective for very specific information.

• Disadvantages

o It is impossible to gather contextual information, such as a description of the working environment, replies may be easily influenced by the interviewer's comments, and body language cues are missing.

o Also, it may be difficult to contact the right person for the telephone interview.

### **Traditional Focus Group**

• A small group of users and a moderator brought together to verbally discuss the requirements.

• The purpose of a focus group is to probe user's experiences, attitudes, beliefs, and desires, and to obtain their reactions to ideas or prototypes

• Setting up focus group involves the following:

o Establish the objectives of the session.

o Select participants representing typical users, or potential users.

o Write a script for the moderator to follow.

o Find a skilled moderator to facilitate discussion, to ensure that the mdiscussion remains focused on relevant topics, and to ensure that everyone participates.

o Allow the moderator flexibility in using the script.

o Take good notes, using the session recording for backup and clarification

### **Facilitated Team Workshop**

• A facilitated, structured workshop held with users to obtain requirements information similar to the traditional Focus Group

• Like focus groups, they do require a great deal of time to organize and run.

### **Observational Field Study**

• Users are observed and monitored for an extended time to learn what they do.

• Observation provides good insight into tasks being performed, the working environment and conditions, the social environment, and working practices

• Observation, however, can be time-consuming and expensive.

• Video recording of the observation sessions will permit detailed task analysis.

**Requirements Prototyping** 

• A demo, or very early prototype, is presented to users for comments concerning functionality.

### **User-Interface Prototyping**

A demo, or early prototype, is presented to users to uncover userinterface issues and problems

### **Usability Laboratory Testing**

Users at work are observed, evaluated, and measured in a specially constructed laboratory to establish the usability of the product at that point in time.

Usability tests uncover what people actually do, not what they think they do a common problem with verbal descriptions

The same scenarios can be presented to multiple users, providing comparative data from several users.

#### INDIRECT METHODS

**MIS Intermediary** 

 A company representative defines the user's goals and needs to designers and developers.

Paper Survey or Questionnaire

 A survey or questionnaire is administered to a sample of users using traditional mail methods to obtain their needs.

Electronic Survey or Questionnaire

 A survey or questionnaire is administered to a sample of users using e-mail or the Web to obtain their needs.

Electronic Focus Group

 A small group of users and a moderator discuss the requirements online using workstations.

Marketing and Sales

 Company representatives who regularly meet customers obtain suggestions or needs, current and potential.

Support Line

 Information collected by the unit that helps customers with day-to-day problems is analyzed (Customer Support, Technical Support, Help Desk, etc.).

E-Mail or Bulletin Board

 Problems, questions, and suggestions from users posted to a bulletin board or through e-mail are analyzed.

User Group

 Improvements are suggested by customer groups who convene periodically to discuss software usage.

Competitor Analyses

 A review of competitor's products or Web sites is used to gather ideas, uncover design requirements and identify tasks.

Trade Show

 Customers at a trade show are presented a mock-up or prototype and asked for comments.

Other Media Analysis

 An analysis of how other media, print or broadcast, present the process, information, or subject matter of interest.

System Testing

New requirements and feedback are obtained from ongoing product testing

**Q.3** An organization is implementing a menu based application that simulates the operation of core processes and procedures. Analyze the different types of menu structure that is required in the application and their usage for the execution of the processes.

Any organization will have multiple applications, interfaces and utilities, specific software for carrying out their core processes and dayto-day activities. So, the organization will need to implement different kind of applications with differing menu requirements. Some of the required menu structures are described below:

### **Structures of Menus**

Menus vary in form from very simple to very complex. They may range from small dialog boxes requesting the user to choose between one of two alternatives, to hierarchical tree schemes with many branches and level of depth. A menu's structure defines the amount of control given to the user in performing a task. The most common structures are the following.

#### **Single Menus**

In this simplest form of menu, a single screen or window is presented to seek the user's input or request an action to be performed, as illustrated in Figure shown below.

O Choice 1

O Choice 2

O Choice 3

A single menu may be iterative if it requires data to be entered into it and this data input is subject to a validity check that fails. The menu will then be represented to the user with a message requesting reentry of valid data.

#### **Sequential Linear Menus**

Sequential linear menus are presented on a series of screens possessing only one path. The menu screens are presented in a preset order, and, generally, their objective is for specifying parameters or for entering data. The length of the path may be short, or long, depending upon the nature of the information being collected. All the menus are important to the process at hand and must be answered in some manner by the user.

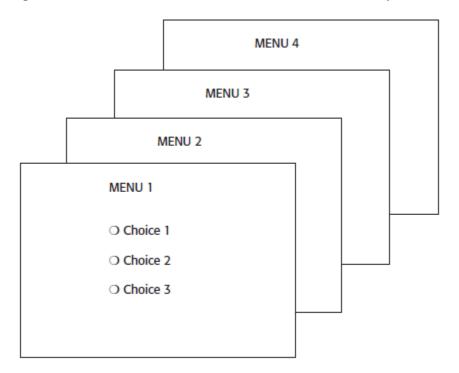


Figure 4.2 Sequential linear menus.

### **Simultaneous Menus**

Instead of being presented on separate screens, all menu options are available simultaneously, as illustrated in Figure 4.3. The menu may be completed in the order desired by the user, choices being skipped and returned to later. All alternatives are visible for reminding of choices, comparing choices, and changing answers.

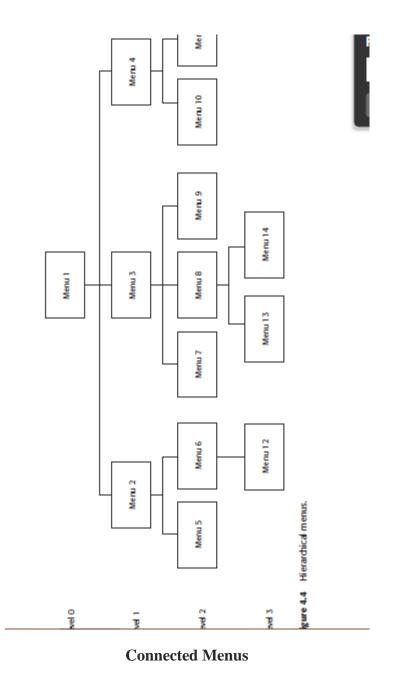
ALTERNATIVE 1	ALTERNATIVE 3
<ul> <li>Choice 1</li> <li>Choice 2</li> <li>Choice 3</li> </ul>	<ul> <li>Choice 1</li> <li>Choice 2</li> <li>Choice 3</li> </ul>
ALTERNATIVE 2	ALTERNATIVE 4
<ul> <li>Choice 1</li> <li>Choice 2</li> <li>Choice 3</li> <li>Choice 3</li> </ul>	<ul> <li>Choice 1</li> <li>Choice 2</li> <li>Choice 3</li> <li>Choice 3</li> </ul>

Figure 4.3 Simultaneous menus.

### **Hierarchical Menus**

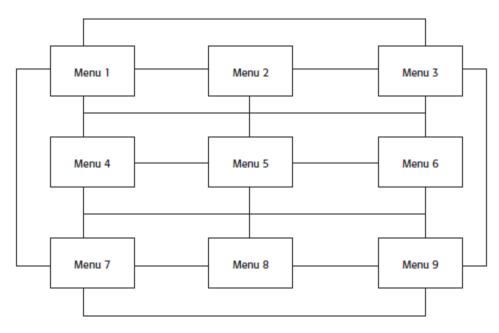
A hierarchical structure results in an increasing refinement of choice as menus are stepped through, for example, from options, to suboptions, from categories to subcategories, from pages to sections to subsections, and so on. A hierarchical structure can best be represented as an inverse tree, leading to more and more branches as one moves downward through it. Hierarchical structures are characterized by depth and breadth, depth being the number of choice levels one must traverse to reach the destination, breadth being the number of alternatives found at each level.

A hierarchical menu is illustrated in Figure 4.4. Note that the top level of the tree is considered level 0 with subsequent levels numbered sequentially beginning with number 1. Starting at the top, level 0, two selections, or mouse clicks, are required to reach level 2.



Connected menus are networks of menus all interconnected in some manner. Movement through a structure of menus is not restricted to a hierarchical tree, but is permitted between most or all menus in the network. From the user's perspective there is no top-down traversal of the menu system but an almost unhindered wandering between any two menus of interest. A connected menu system may be cyclical, with movement permitted in either direction between menus, or a cyclical, with movement permitted in only one direction. These menus also vary in connectivity, the extent to which menus are linked by multiple paths. (In a hierarchical menu system, the ability to go back to a previous menu or to return to the top-level menu are also examples, although restricted, of connected menus.)

The biggest advantage of a connected menu network is that it gives the user full control over the navigation flow. Its disadvantage is its complexity, and its navigation, may be daunting for an inexperienced user. An example connected menu structure is represented in Figure 4.5.





# **Event-Trapping Menus**

Event Trapping menus provide an ever-present background of control over the system's state and parameters while the user is working on a foreground task. They are, in essence, a set of simultaneous menus imposed on hierarchical menus. In a graphical system, for example, existing together are a simultaneous menu, the menu bar, and a hierarchy—the menu bar and its pull-downs. Event-trapping menus generally serve one of three functions. (1) They may immediately change some parameter in the current environment (bold a piece of text), (2) they may take the user out of the current

some parameter in the current environment (bold a piece of text), (2) they may take the user out of the current environment

to perform a function without leaving the current environment (perform a spell check), or (3) they may exit the current environment and allow the user to move to a totally new environment (Exit).

Q. 4 Describe the components of web navigation system with illustration.

Following are some of the important components required for a good web site navigation.

### 1. Scrolling:

> Do not require scrolling of navigation-only pages.

- > Minimize the need for scrolling to view all links on pages containing content.
- ➤ Never require horizontal scrolling.

# 2. Number of Links:

 $\succ$  One link: At a minimum, every page should contain at least one link. To follow a path and then reach a dead end

 $\succ$  Conservative number: A smaller number of links also increases the likelihood that those being looked for will be noticed. It is not necessary to mention all features of a site on all pages. To reduce the number of links, restrict those presented to the most important site content or useful features.

 $\succ$  Embedded links: Embedded links can be a distraction and reduce page readability, especially if used in abundance. They may also be overlooked in text scanning, especially if the scanning is not carefully done. The best trade-off is to incorporate embedded links in moderation.

# 3. Presenting Links:

■ Link text:

— Underline all link text, including that:

- Embedded in page content.
- Contained in explicit menu listings.
- Contained in headings.
- Used as graphical labels.
  - Distinguish between unselected/unvisited links and selected/visited links.
- Make unselected/unvisited links blue.
- Make selected/visited links purple.

### Kinds of links:

- Distinguish links leading to different Web destinations through a differentiating symbol:
- Precede links to content within the same page with a pound sign (#).
- For links moving downward in the page, use: #The principles of design.
- For links moving upward in the page use: #^ Principles introduction.
- Precede links to external or foreign sites with another unique symbol such

as an asterisk (\*): \* Additional information.

• Do not precede links to other site pages with any symbol:

- More principles of design.

— Also distinguish links leading to different Web destinations by presenting them in consistent locations.

- Graphical links:
  - Distinguish graphical links from decorative graphics through:
  - Underlining graphical text labels.
- Links in toolbars:
  - Distinguish links contained in toolbars through:
  - Presenting in consistent locations.
  - Using different colored backgrounds.

Kinds of Links:

- Within a page:
- For long pages, include links to internal page content.
- Within a Web site:
- On all pages include links to:
- The Web site home page.
- Global Web site features.
- Other main pages, navigation points, or categories.
- The likely Web site starting point.
- Main pages with links to the page.
- On sequential pages, include links to the:
- Next page.
- Previous page.
- Also consider including links to:
- Places of related interest.
- Important pages.

### Q. 5 Explain formatting the menus and Phrasing the menus

# **Formatting of Menus**

What follows is a series of guidelines for formatting menus.

### Consistency

- Provide consistency with the user's expectations.
- Provide consistency in menu:
- Formatting, including organization, presentation, and choice ordering.
- Phrasing, including titles, choice descriptions, and instructions.
- Choice selection methods.
- Navigation schemes.

### Display

• If continual or frequent references to menu options are necessary, permanently display the menu in an area of the screen that will not obscure other screen data.

• If only occasional references to menu options are necessary, the menu may be presented on demand.

- Critical options should be continuously displayed, however.

### Presentation

• Ensure that a menu and its choices are obvious to the user by presenting them with a unique and consistent structure, location, and/or display technique.

• Ensure that other system components do not possess the same visual

qualities as menu choices.

### Organization

- Provide a general or main menu.
- Display:
- All relevant alternatives.
- Only relevant alternatives.
- Delete or gray-out inactive choices.
- Match the menu structure to the structure of the task.

o Organization should reflect the most efficient sequence of steps to accomplish a person's most frequent or most likely goals.

• Minimize number of menu levels within limits of clarity.

- For Web sites, restrict it to two levels (requiring two mouse clicks) for fastest performance.
- Easier hiding of inappropriate choices.

• Less likelihood of confusing similar choices since there is less likelihood that they will be seen together.

- Greater depth disadvantages are:
- More steps and longer time to reach one's objective.
- More difficulties in learning since relationships between elements cannot always be seen.

• More difficulties in predicting what lies below, resulting in increased likelihood of going down wrong paths or getting lost.

• Higher error rates.

# Complexity

- Provide both simple and complex menus.
- Simple: a minimal set of actions and menus.
- Complex: a complete set of actions and menus.

### **Item Arrangement**

- Align alternatives or choices into single columns whenever possible.
- Orient for top-to-bottom reading.
- Left-justify descriptions.

# Phrasing the Menu

- A menu must communicate to the user information about:
- o The nature and purpose of the menu itself.
- o The nature and purpose of each presented choice.
- o 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.
- o 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.

### **Menu Instructions**

• For novice or inexperienced users, provide menu completion instructions.

— Place the instructions 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.

# Q. 6 Write short notes on Pop-up menus, Pull down menu and Menu bar.

A menu consists of four elements, its context, its title, its choice descriptions, and its completion instructions.

### Menu Bar

■ Proper usage:

— To identify and provide access to common and frequently used application actions that take place in a wide variety of different windows.

— A menu bar choice by itself should not initiate an action.

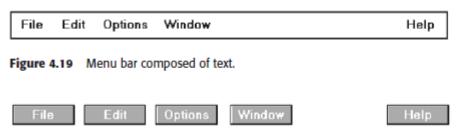


Figure 4.20 Menu bar composed of buttons.

# Display

All primary windows must have a menu bar.

■ All menu bars must have an associated pull-down menu containing at least two choices.

Do not allow the user to turn off the display of the menu bar.

■ If all the items in its associated pull-down menu are disabled, then disable the menu bar item.

— Display the disabled item in a visually subdued manner.

— However, the disabled pull-down menu must always be capable of being pulleddown so that the choices may be seen.

### 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

- Follow standard platform ordering schemes where they exist.
- Place application-specific choices where they fit best.
- Order choices left-to-right with:
- Most frequent choices to the left.
- Related information grouped together.
- Choices found on more than one menu bar should be consistently positioned.
- Left-justify choices within the line.
- When choices can be logically grouped, provide visual logical groupings, if possible.
- Help, when included, should be located at the right side of the bar.

# Layout

- Indent the first choice one space from the left margin.
- Leave at least three spaces between each of the succeeding choices (except for Help which will be right-justified).
- Leave one space between the final choice and the right margin.

# Separation

- Separate the bar from the remainder of the screen by:
- A different background, or
- Solid lines above and below.

# 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.

Tabs	Justification	Spacing	Left	Right	Carriage	Help
	<u>None</u> Left Center <u>R</u> ight					

Figure 4.24 Menu bar pull-down.

# Display

- Display all possible alternatives.
- Gray-out or dim items that cannot be chosen due to the current state of an application. *Location*
- Position the pull-down directly below the selected menu bar choice.

Size

- Must contain a minimum of two choices.
- Restrict to no more than 5 to 10 choices, preferably 8 or less.
- Title

• Not necessary on a pull-down menu. The title will be the name of the menu bar item chosen.

# Item Descriptions

- Use mixed-case, headline-style words to describe choices.
- If the choices can be displayed graphically, for example, as fill-in patterns,

shades, or colors, textual descriptions are not necessary.

- Do not:
- Identify a menu item by the same wording as its menu title.
- Change the meaning of menu items through use of the Shift key.
- Use scrolling in pull-downs.
- Place instructions in pull-downs.

# Organization

• Follow standard platform ordering schemes when they exist.

- Place application-specific choices where they fit best.
- Place frequent or critical items at the top.
- Separate destructive choices from other choices.
- Align choices into columns, with:
- Most frequent choices toward the top.
- Related choices grouped together.
- Choices found on more than one pull-down consistently positioned.
- Left-align choice descriptions.

■ Multicolumn menus are not desirable. If necessary, organize top-to-bottom, then left-to-right.

# Pop-up Menus

• Use to present alternatives or choices within the context of the task.

Now is the time	
	<u>C</u> ut
	Copy
	Paste
	Delete
	Eont
	QuickFormat
	Spe <u>l</u> l Check
	Reveal Codes
	B <u>u</u> llets

Figure 4.35 Pop-up menu.

The *advantages* of pop-up menus are:

- They appear in the working area.
- They do not use window space when not displayed.
- No pointer movement is needed if selected by button.
- Their vertical orientation is most efficient scanning.
- Their vertical orientation most efficient for grouping.
- Their vertical orientation allows more choices to be displayed.
- They may be able to remain showing ("pinned") when used frequently.
- They allow for display of both keyboard equivalents and accelerators.

The disadvantages of pop-up menus are:

- Their existence must be learned and remembered.
- Means for selecting them must be learned and remembered.
- They require a special action to see the menu (mouse click).
- Items are smaller than full-size buttons, slowing selection time.
- They may obscure the screen working area.
- Their display locations may not be consistent.

### Display

Provide a pop-up menu for common, frequent, contextual actions.

— If the pointer is positioned over an object possessing more than one quality (for example, both text and graphics), at minimum present actions common to all object qualities.

• Items that cannot be chosen due to the current state of an application should not be displayed.

■ Continue to display a pop-up until:

— A choice is selected.

— An action outside the pop-up is initiated.

— The user removes the pop-up.

# Location

■ Position the pop-up:

— Centered and to the right of the object from which it was requested.

- Close enough to the pointer so that the pointer can be easily moved onto the

menu.

— But not so close that the pointer is positioned on an item, possibly leading to accidental selection.

■ If the pointer is positioned in such a manner that the pop-up would appear offscreen or clipped, position the menu:

— As close as possible to the object, but not covering the object.

— So that it appears fully on the screen.

Size

■ Restrict the pop-up to no more than 5 to 10 choices, preferably 8 or less.

Title

■ Not necessary on a pop-up menu.

- If included, clearly describe the menu's purpose.
- Locate in a centered position at the top.

Faculty Signature

CCI Signature

HOD Signature