

User Interface Design & Implementation

Menu Selection and Form Fill-in

Week 3 – Lecture 7

January – May Term, 2020

Assigned Reading: Chapter 8

Recall

Five main types of interaction style

1. Direct Manipulation
2. Menu Selection
3. Form Fill-in
4. Command Language
5. Natural Language

Today's Topics

- Menu selection: making choices
 - Single menus
 - Multiple menus
 - Menu contents
- Form fill-in for data entry
- Dialog boxes: combination of menus and forms

Today's Topics

- **Menu selection: making choices**
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 - Multiple menus
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Menu – the Real Thing

**KEMPFENFELT
CONFERENCE CENTRE, BARBIE**
Great Meetings Begin with the Site!

Sample Menus

Breakfast Buffet

- Hot Items**
 - Poached Eggs Benedict
 - Bacon, Sausage
 - Belgian Waffles
 - Grilled Tomatoes with herbs
- Cold Items**
 - Fruit Bottom Yogurts
 - Fresh Fruit salad
 - Assorted cereals
 - Fruit juices
 - Fresh Baked Breakfast Pastries
- At the Toaster**
 - Bagels
 - English Muffins
 - Variety of Breads

**Harvie L. Pittman
Chef de Cuisine**

*Guests with pre-arranged special diets,
Please present your card to your server.*

Buffet Luncheon

- * Cold Items**
 - Fresh Baked Breads & Rolls
 - Mixed Greens Choice of Dressings
 - Marinated Vegetables
 - Devilled Eggs
 - Olives, Pickles, Chick Peas, Beets
 - Cucumber & Mandarin Salad
- * Hot Items**
 - Roast Ontario Turkey, Pan Gravy
 - Sage & Onion Dressing
 - Mashed Potatoes
 - California Mixed Vegetables
- Desserts**
 - Peach Crisp ala mode
 - Fresh Baked Variety of Cookies
 - Assortment of Fresh Fruit

**Harvie L. Pittman
Chef de Cuisine**

*Guests with pre-arranged special diets,
Please present your card to your server.*

**Dinner Menu
(Table d'Hoté)**

- Appetizer**
 - Mixed Garden Salad
 - Creamy Herb Dressing
- Entrées**
 - Breast of Chicken "Florida Style"
Filled with Grapefruit & Ginger
 - Roast Prime Rib of Alberta Beef Au Jus
 - Yorkshire Pudding
 - Grilled Swordfish Steak Citrus Butter
 - Melange of Vegetables
 - Baked Stuffed Potato
- Dessert**
 - Triple Chocolate Mousse
 - Raspberry Coulis

**Harvie L. Pittman
Chef de Cuisine**

*Guests with pre-arranged special diets,
Please present your card to your server.*

Helps diners organize their meal choices.

Choices are broken down into 3 groups:

1. Breakfast
2. Lunch
3. Dinner

Items are clearly categorized, e.g.:

Hot Items

Cold Items

Appetizers

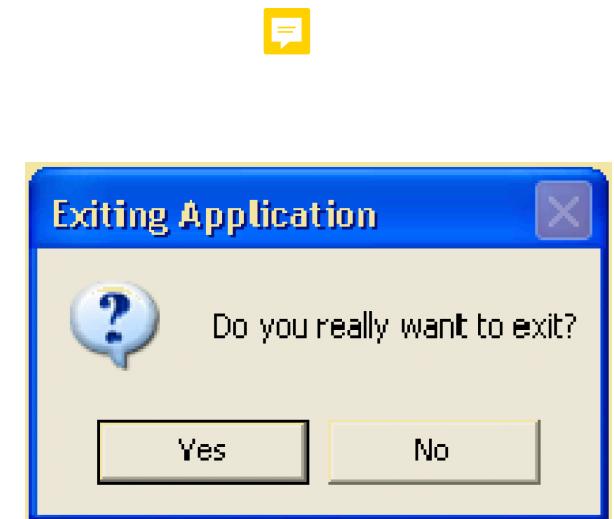
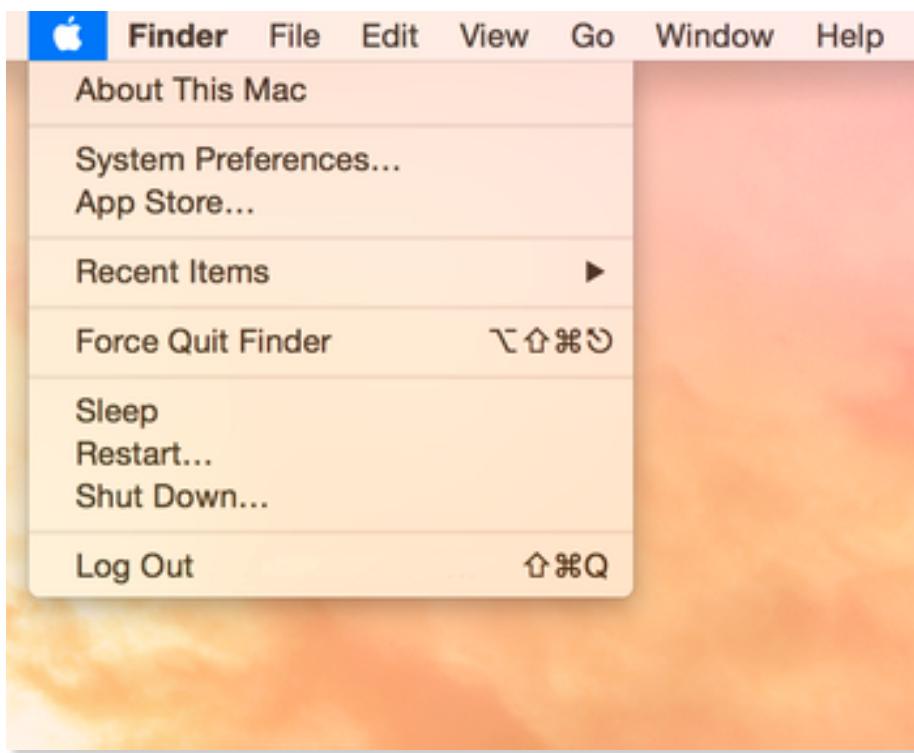
Entrees

Dessert

Hierarchical decomposition - Natural and comprehensible to most people

Menu – Computing

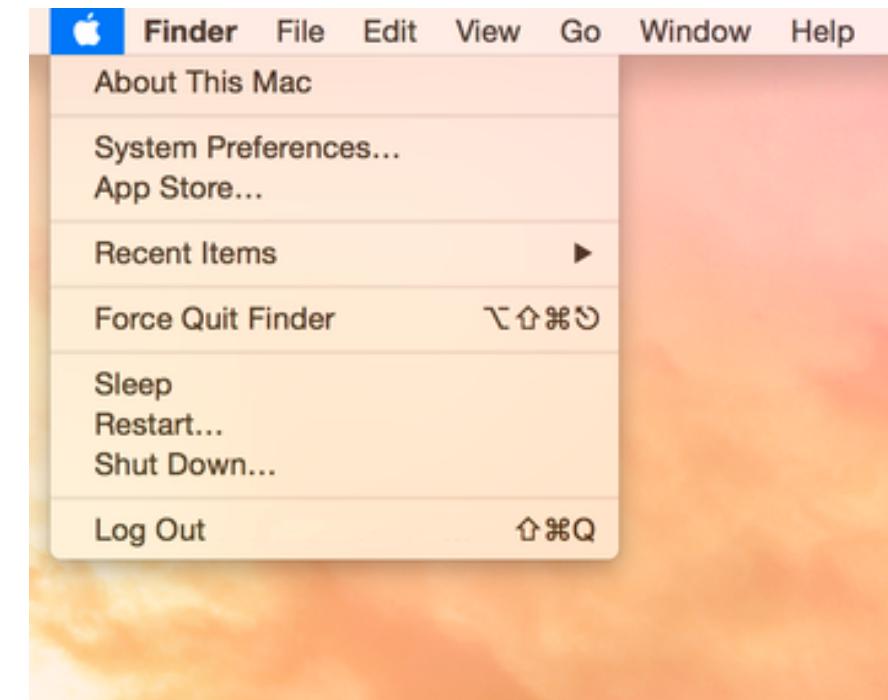
A **menu** is a list of **options** or **commands** presented to the user of a computer.



Menu Selection

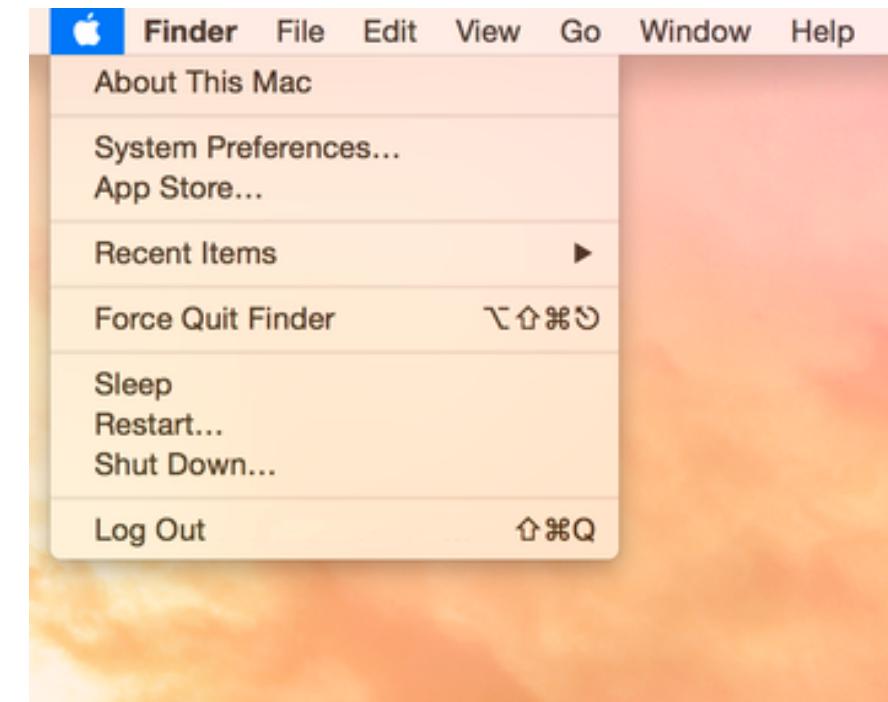
- Primary goal: making choices

- Menu Organization
 - Sensible
 - Comprehensible
 - Memorable
 - Convenient
- Relevant to the user's tasks
 - Carefully consider task objects and actions



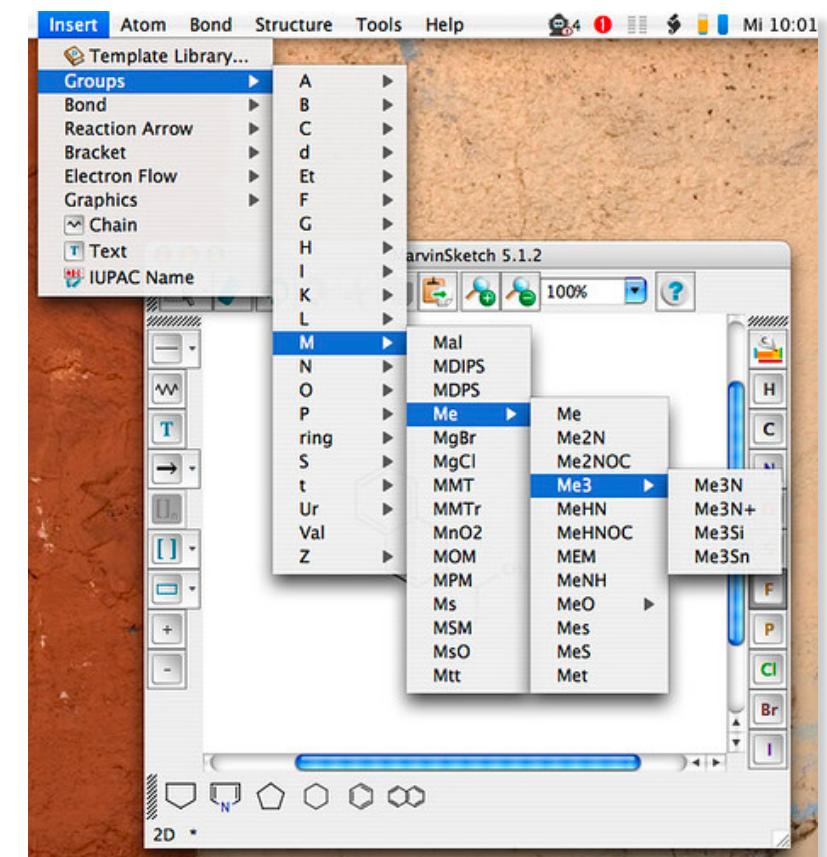
Menu Selection

- Advantages
 - Easily recognizable
 - Do not require users to remember any special syntax
 - Good for intermittent users
 - Help in structuring decision-making processes
 - Can be used with pointing devices or keystrokes



Menu Selection

- Poorly designed menus can be counter-productive
 - User can get easily lost navigating menus
 - User can become frustrated
 - Unclear categories or item labels can make it difficult to navigate and reduce performance
 - Bad menus can make us “dislike” an interface



Early User Studies on Menus

- 1982-1983, study by Liebelt et al
- Experiment 1
 - 1. Menus constructed with meaningful organization
 - 2. Menus constructed in a disorganized fashion

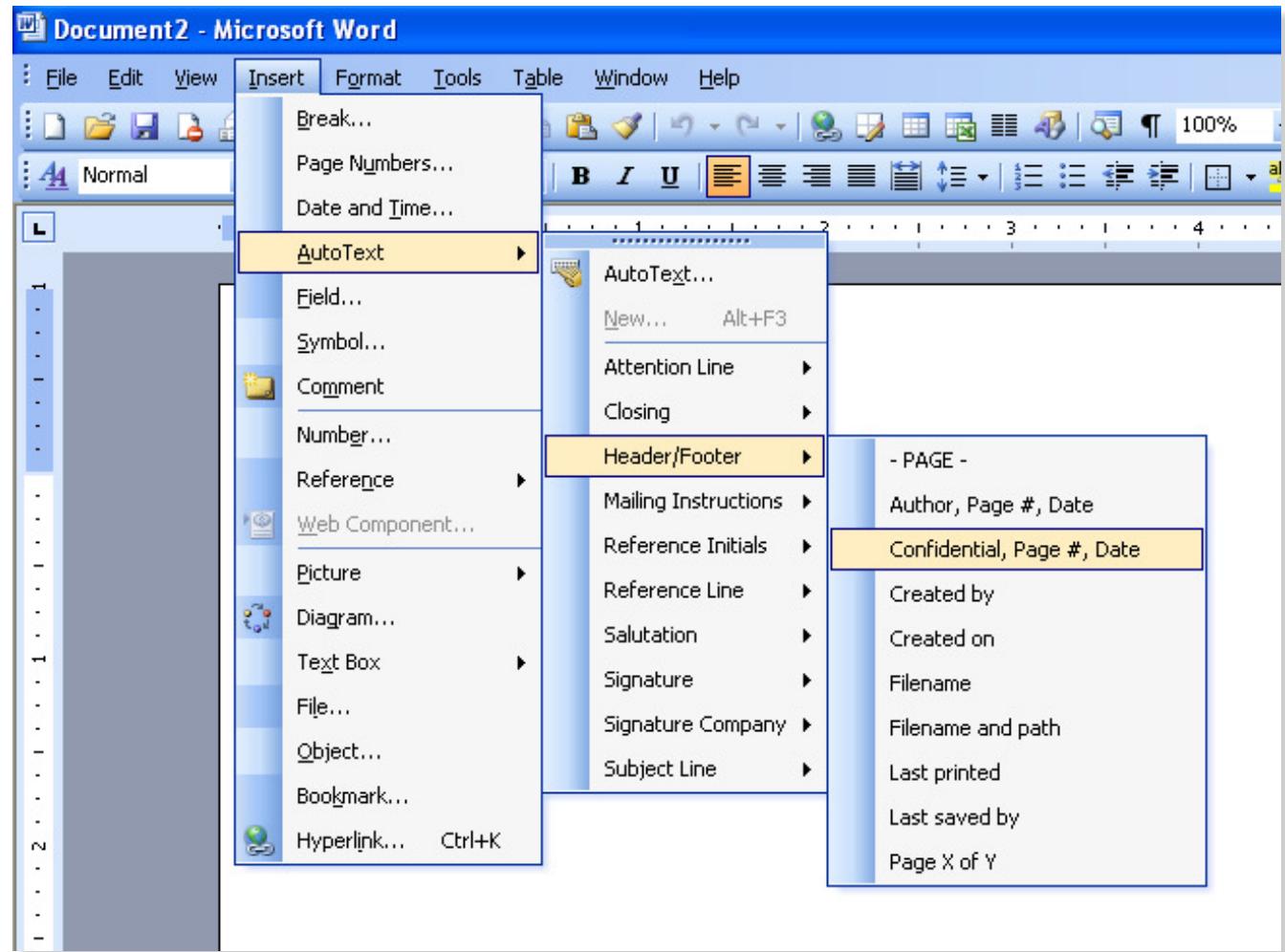
RESULT: Users using **menu 1** required **50% less time** to perform **selection tasks**
- Experiment 2
 - 1. Items placed in menu via meaningful categories
 - 2. Items placed in menu via Alphabetical order
 - 3. Items placed in menu via Random order

RESULT: Users using **menu 1** demonstrated **superior performance**

Three Sub-topics

Three sub-topics here:

1. Single Menus
 - different forms
2. Multiple Menus
 - different organizations
3. Menu Contents
 - four issues

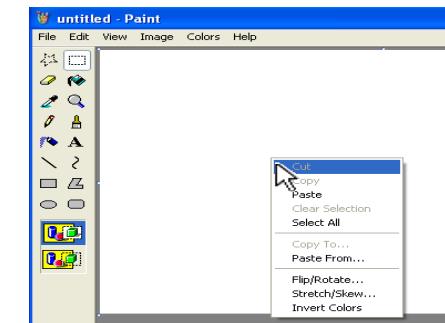
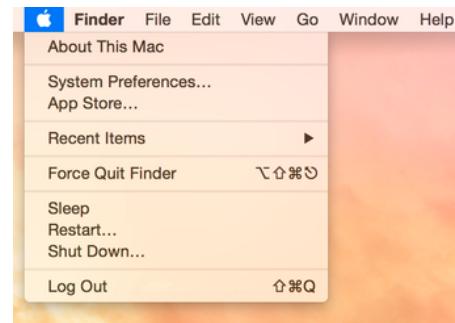
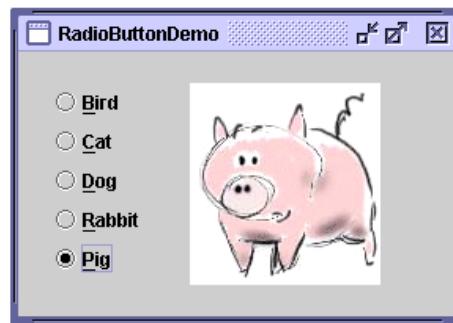
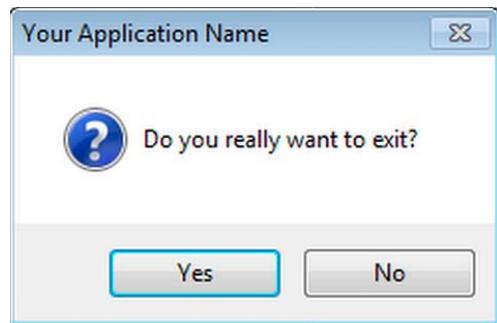


Today's Topics

- Menu selection: making choices
 - **Single menus**
 - Multiple menus
 - Menu contents
- Form fill-in for data entry
- Dialog boxes: combination of menus and forms
- Consideration for small screens

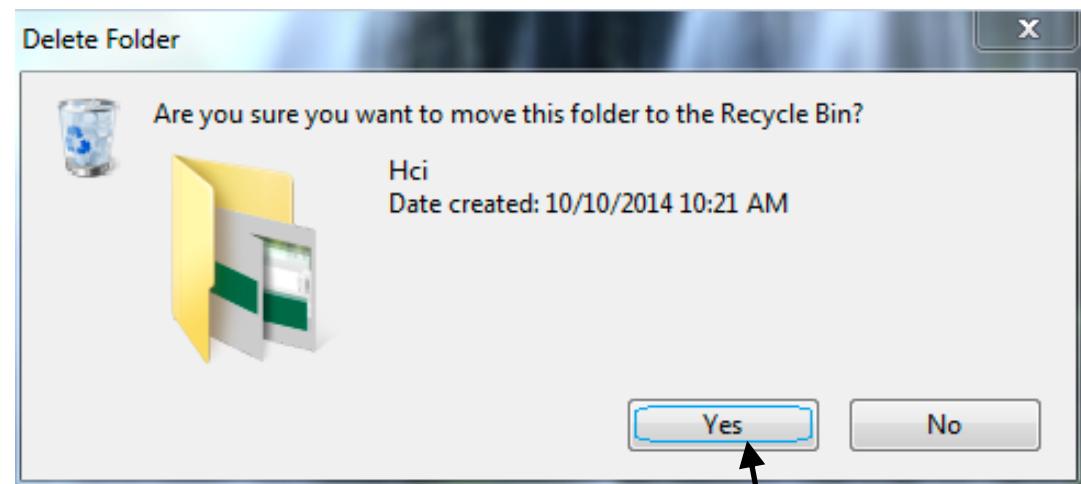
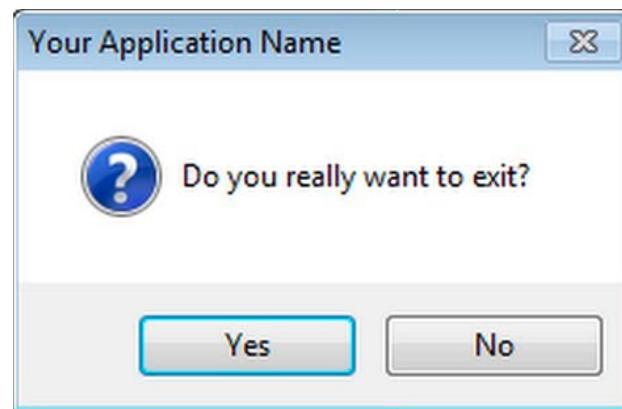
Single Menus

1. Binary menus
2. Multi-choice menus
3. Pull-down menus
4. Pop-up menus
5. Icon menus, palettes and toolbars



#1 Binary Menus

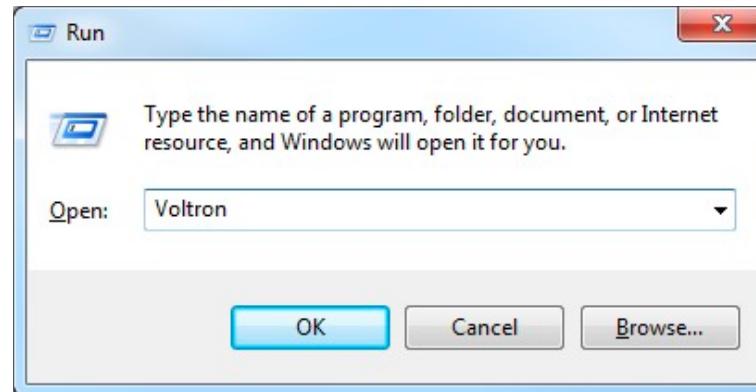
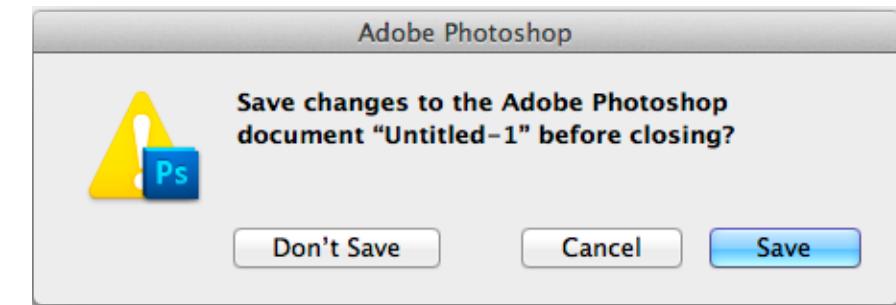
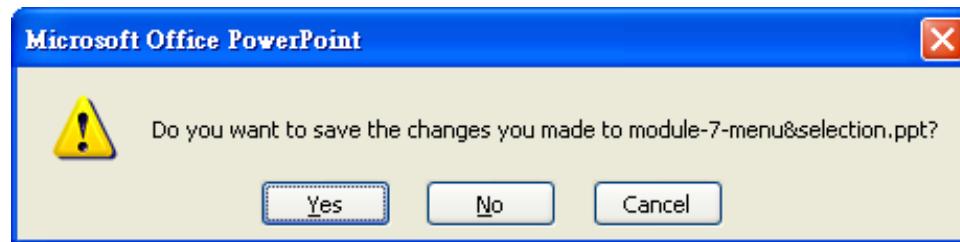
- Binary menus
 - Yes/No – OK/Cancel questions
 - Common in dialog box
 - Nice and easy. . . .
 - Default choice (avoid error)



Usually with shortcut key

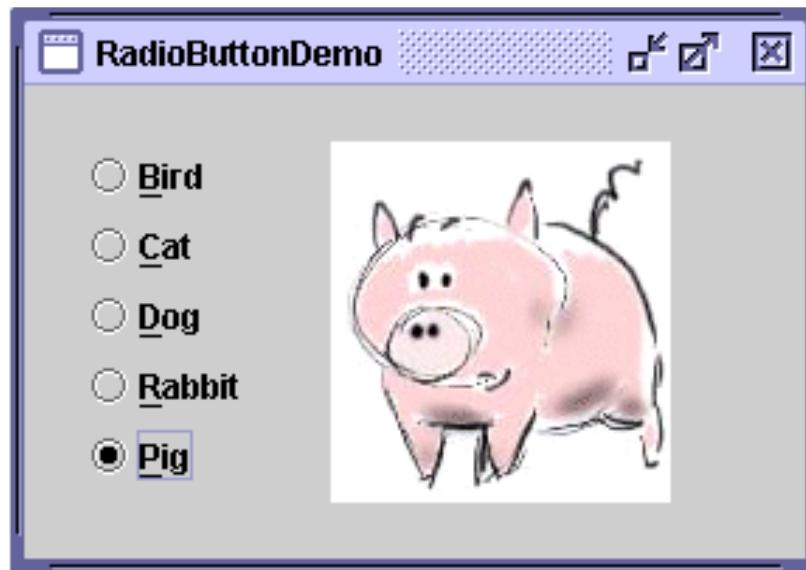
#2 Multi-choice Menus

- We can still use buttons for a few number of items...



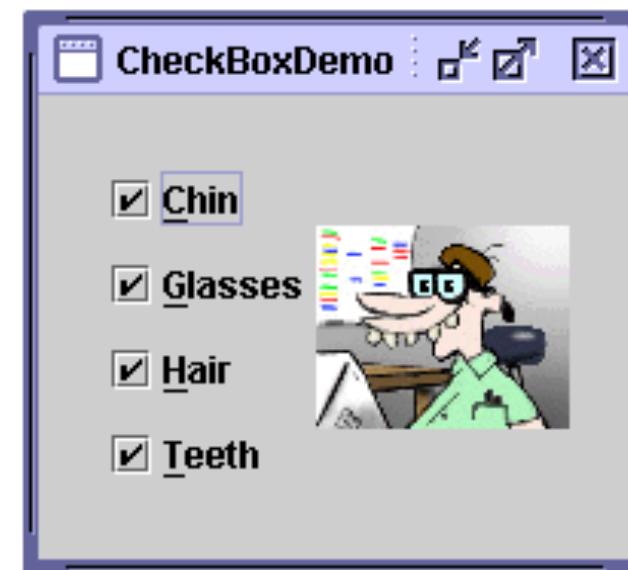
#2 Multi-choice Menus

- Selecting multiple items with radio buttons and checkboxes



Radio Buttons

Generally only one choice allowed

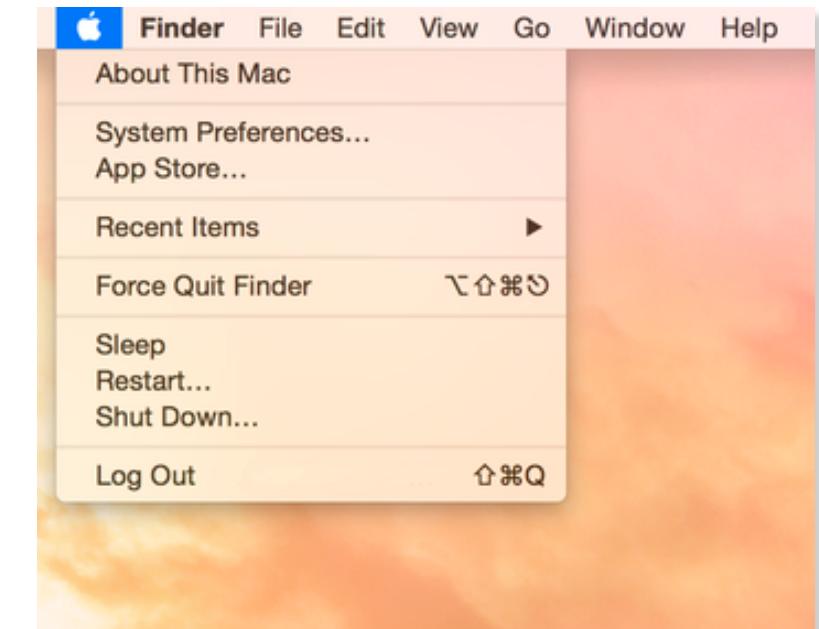


Checkboxes

Typically can make more than one choice

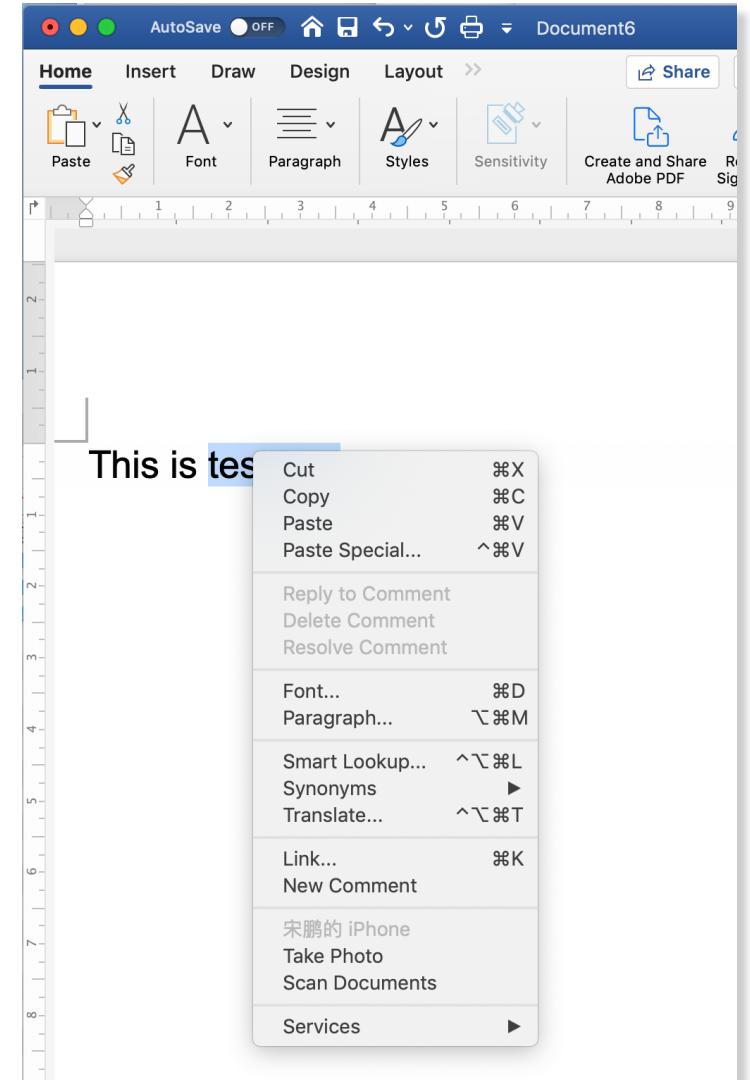
#3 Pull-down Menus

- Pull-down menus
 - Always available to the user by making selections on a top menu bar
 - Users always know where these menus are found
 - Benefit: selection choices are hidden until needed
 - Keyboard shortcuts (important to support expert user efficiency)
 - Can be hierarchical (refer to Tree Structure Menus)



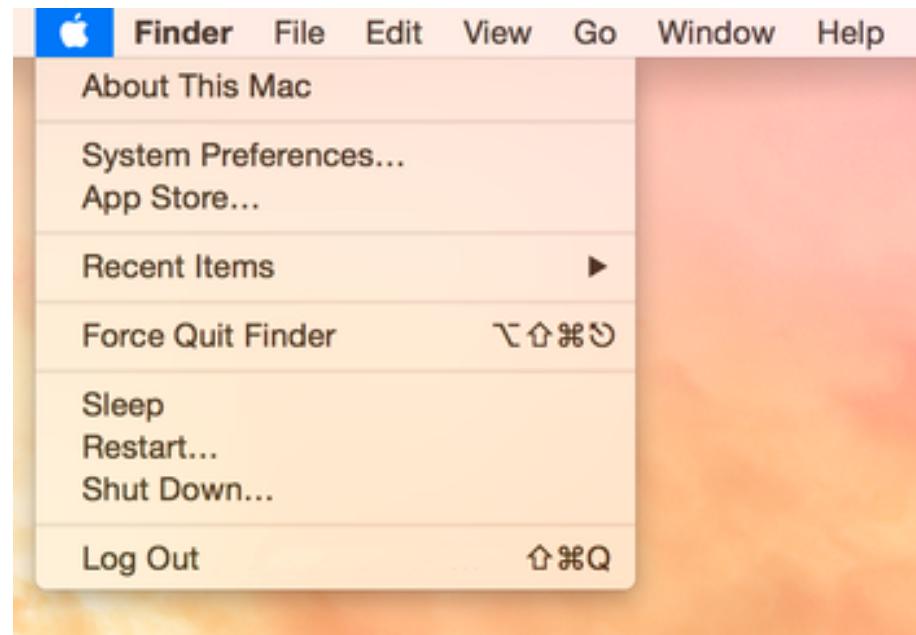
#4 Pop-up Menus

- Similar to “pull-down” menus, but pop-up menus allow to have the menu appear anywhere
- Typically launched with a button click
 - For example, in Microsoft Word, right-clicking “pops up” a menu



#5 Icon Menus, Palettes and Toolbars

- Rather than basic text menus, **icon menus** let users combine graphics with text for menu selections on the computer

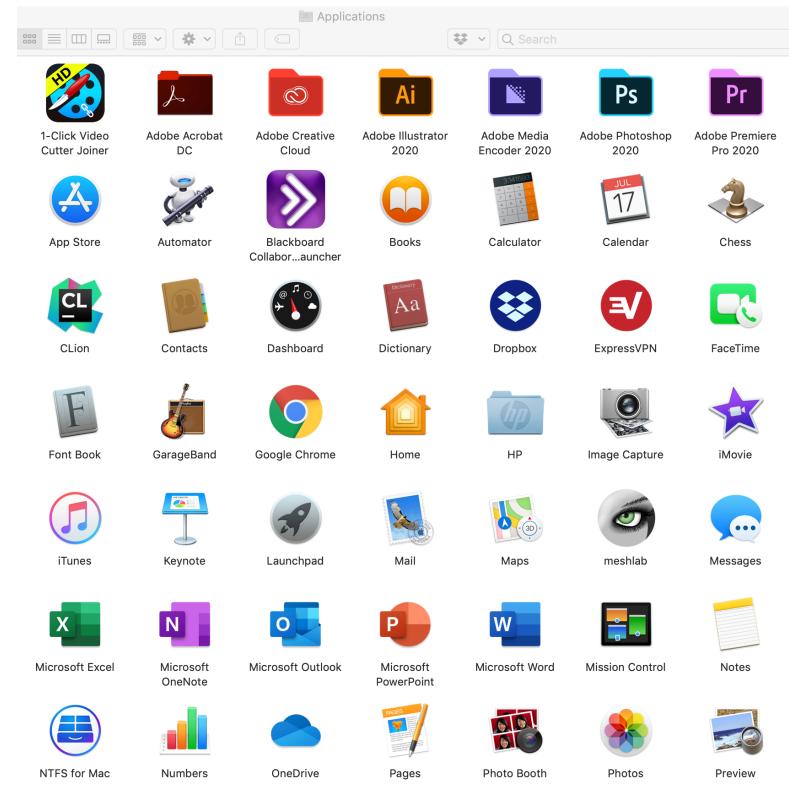
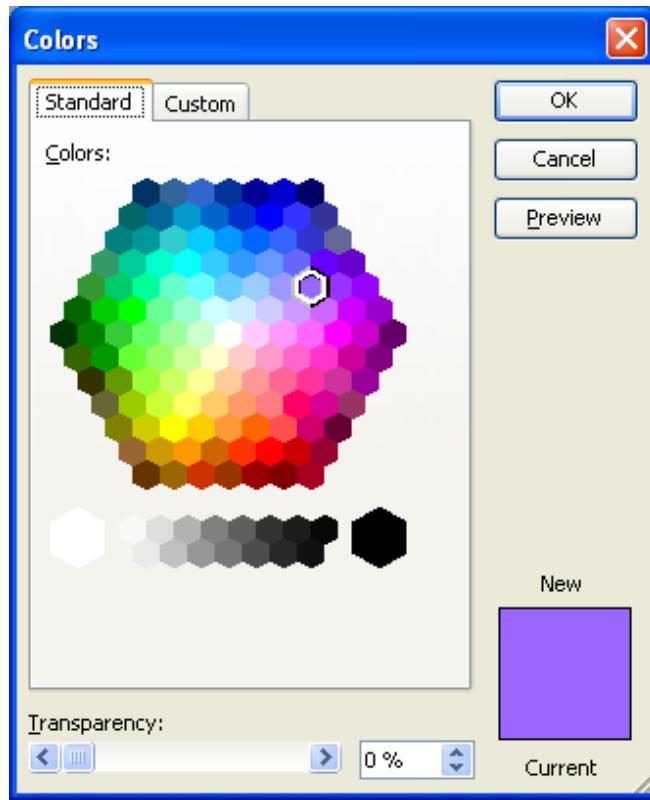


Pull-down menu



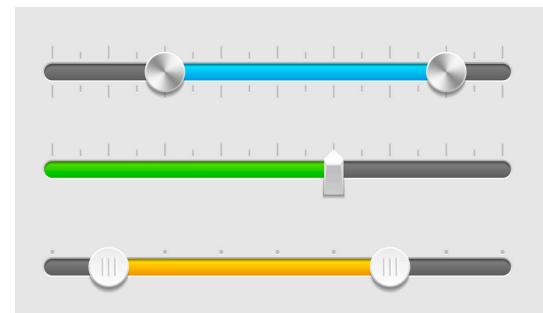
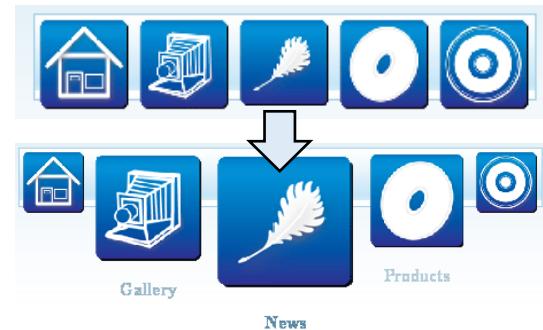
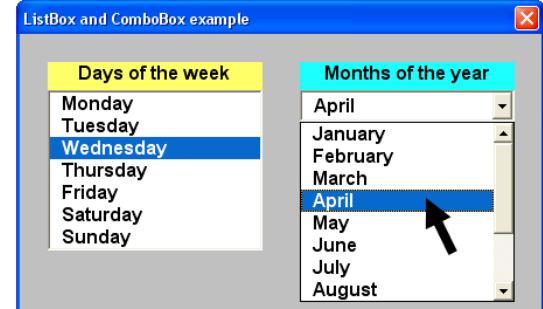
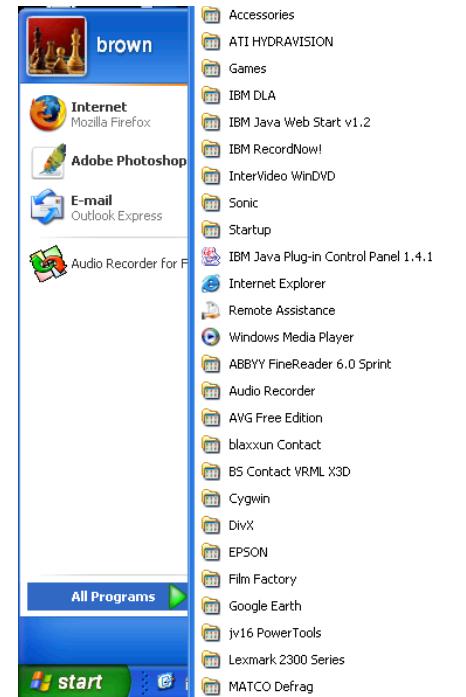
Icon menu

#5 Icon Menus, Palettes and Toolbars



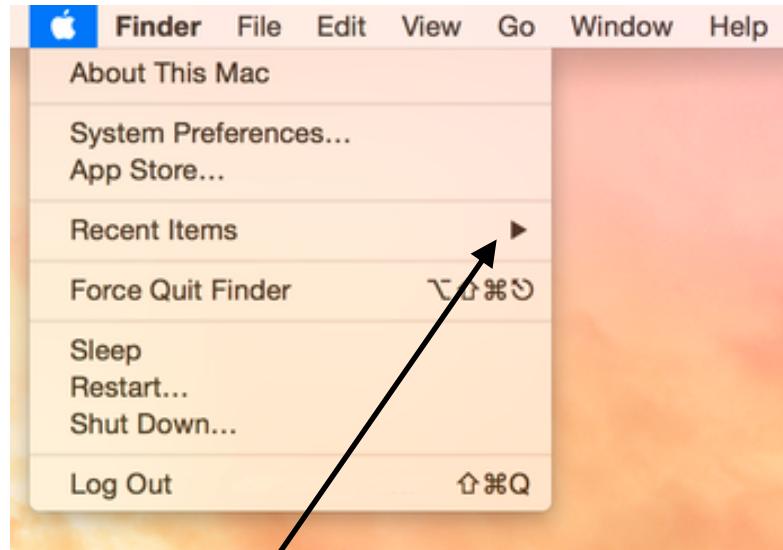
Menus for Long Lists of Items

1. Scrolling menus
2. Combo boxes and List boxes
3. Fisheye menus and toolbars
4. Sliders
5. 2D menus
6. Embedded menus

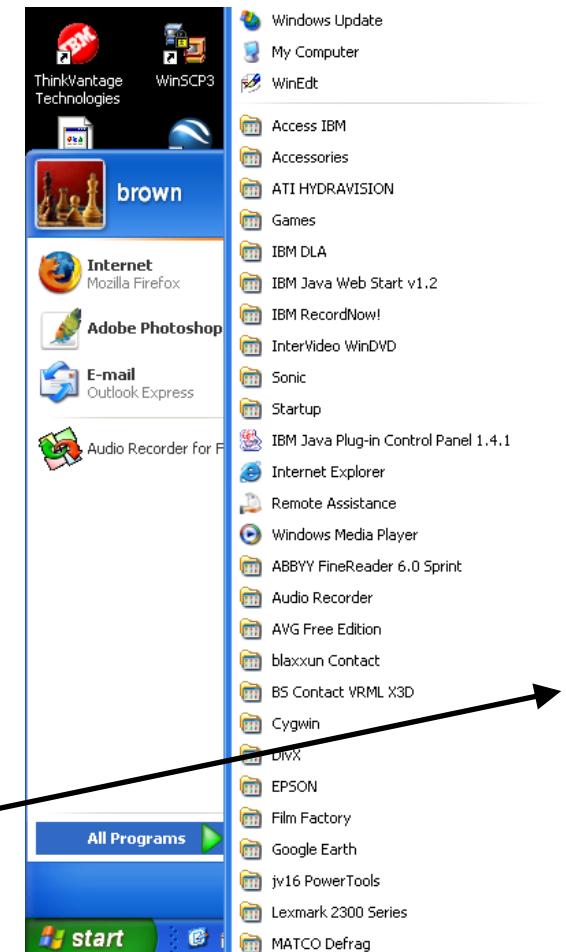


#1 Scrolling Menu

- List of items are shown, with one entry (typically an arrow) that leads to more items

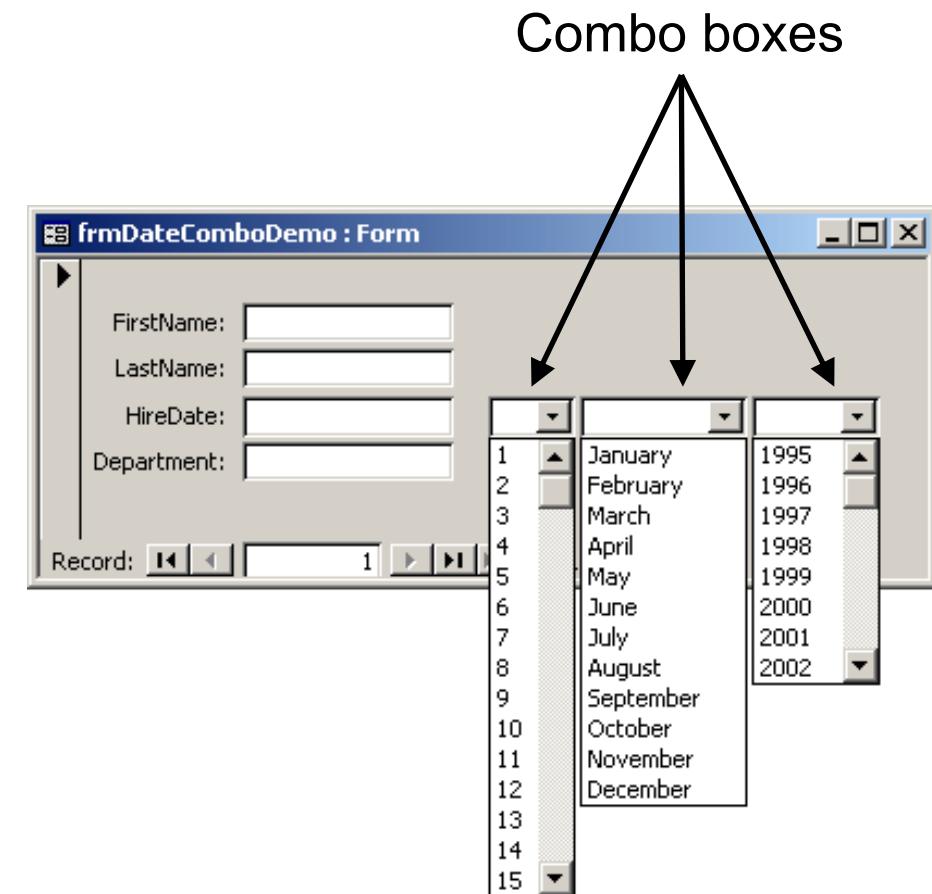


Click here expands menu choices
* Arrow to indicate next set of items



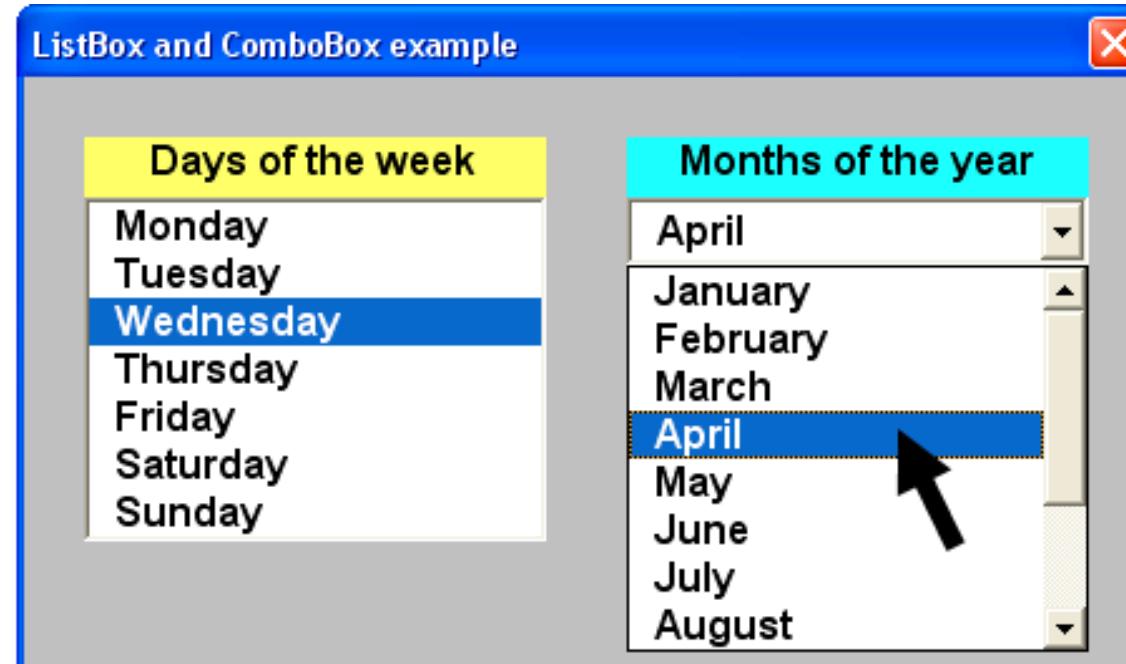
#2 Combo Boxes

- Typically allow one choice to be selected
- Use less screen space as selection choices are hidden until needed
- Choices are well-ordered/categorized
- Although combo boxes look like text entries, this is not form “fill-in”, because there is nothing to fill in



#2 List Boxes

- Differences between combo boxes and list boxes
 - list boxes allow one or multiple choices to be selected
 - list boxes occupy more space



List boxes

Combo boxes

#3 Fisheye Menus and Toolbars

- A **fisheye lens** is an ultra wide-angle lens that produces strong visual distortion intended to create a wide panoramic or hemispherical image



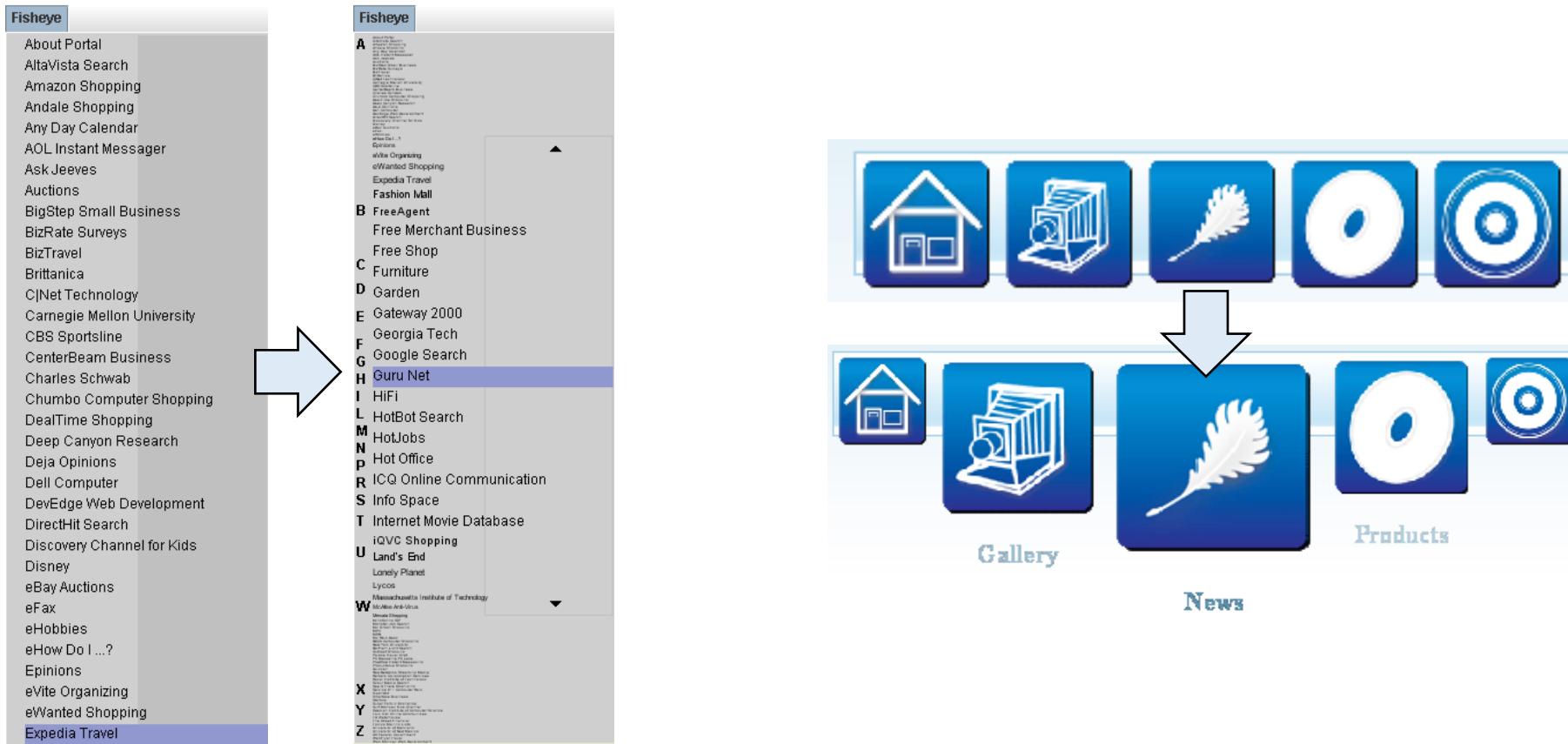
Fish eyes have a more spherical lens



Example photo taken with a fisheye lens

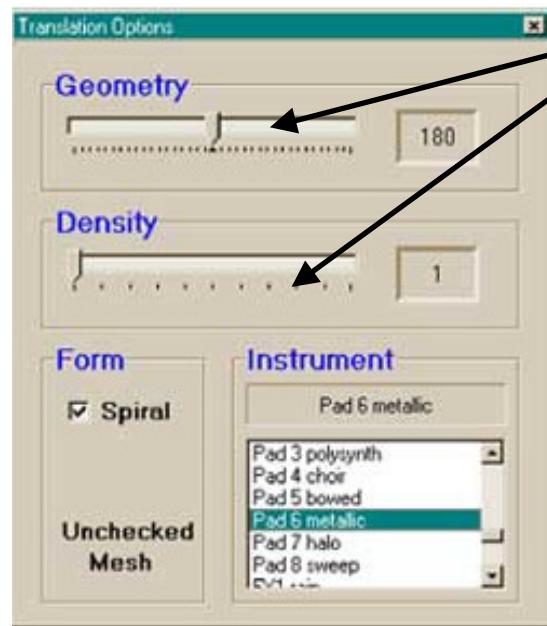
#3 Fisheye Menus and Toolbars

- Fisheye menus and toolbars change the size of the menu items to an area of focus around the mouse pointer.

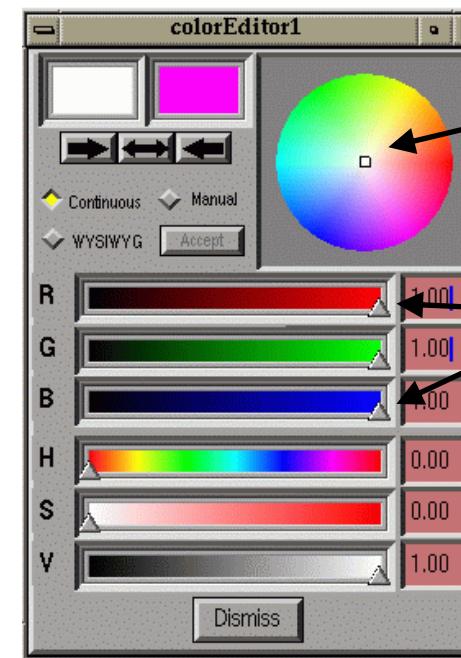


#4 Sliders

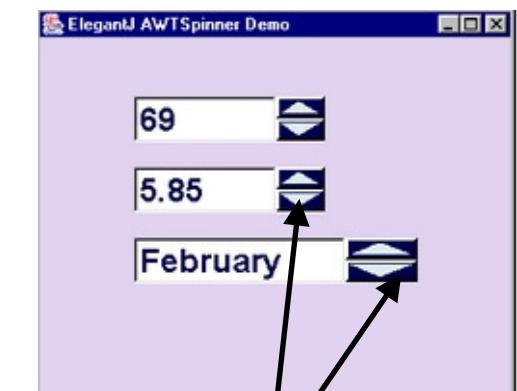
- Sliders allow users to make selections from a range of choices/values that are continuous, but discrete



Sliders



More than 1D

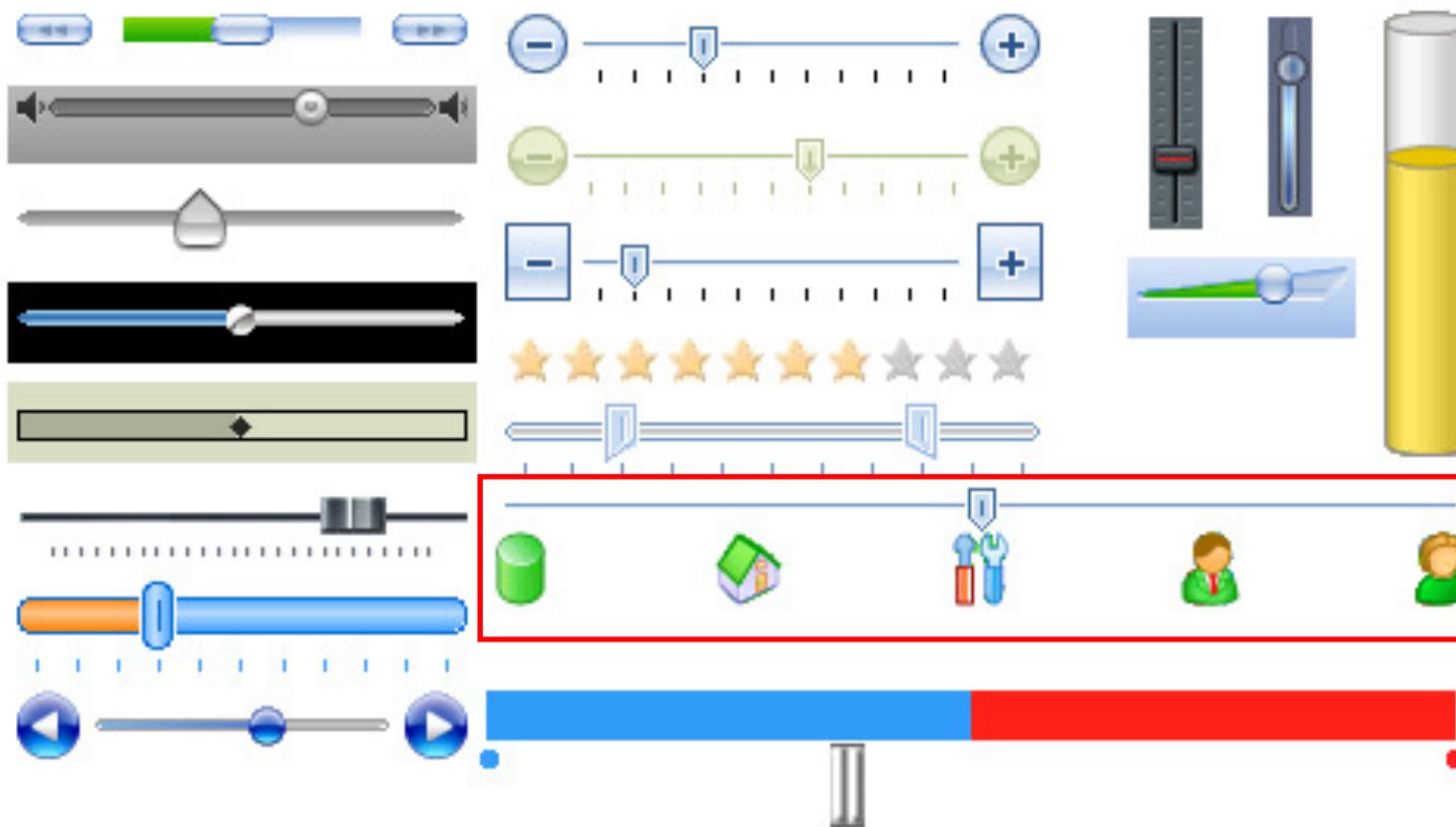


Sliders

Variant: Spinners (or spin box)
Similar to sliders and to combo-lists.
Allows user to move through finite range of choices.

#4 Sliders

- Sliders can have different appearance; not necessary to have numerical and continuous values



#4 Sliders

- Variant: Range slider
 - Sliders with two markers (max. and min.)

Single Slider Example

Value: 500



Range Slider Example

Value 1: 200

Value 2: 700



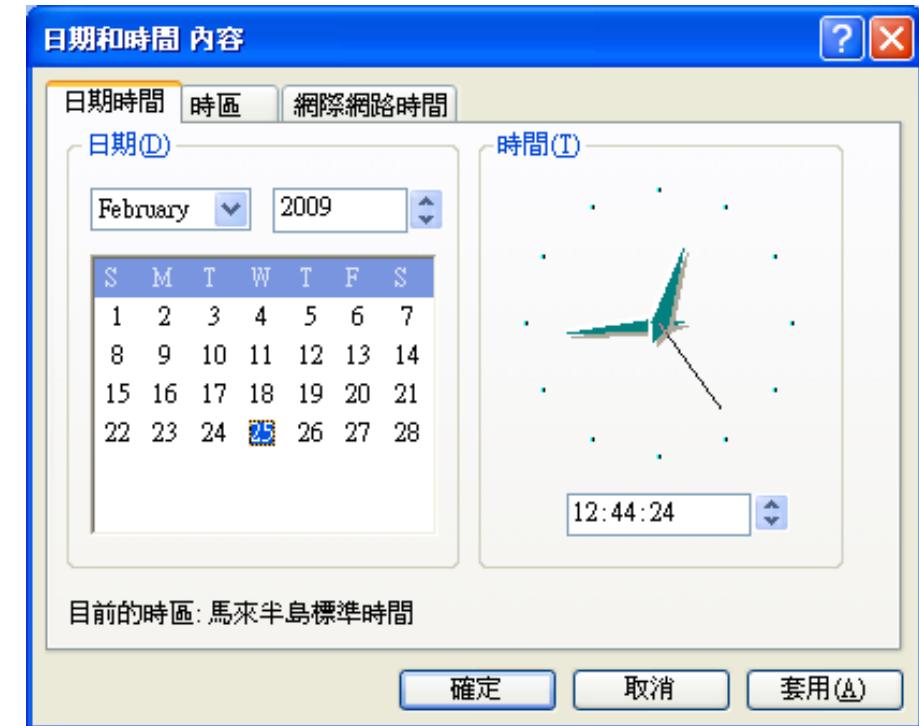
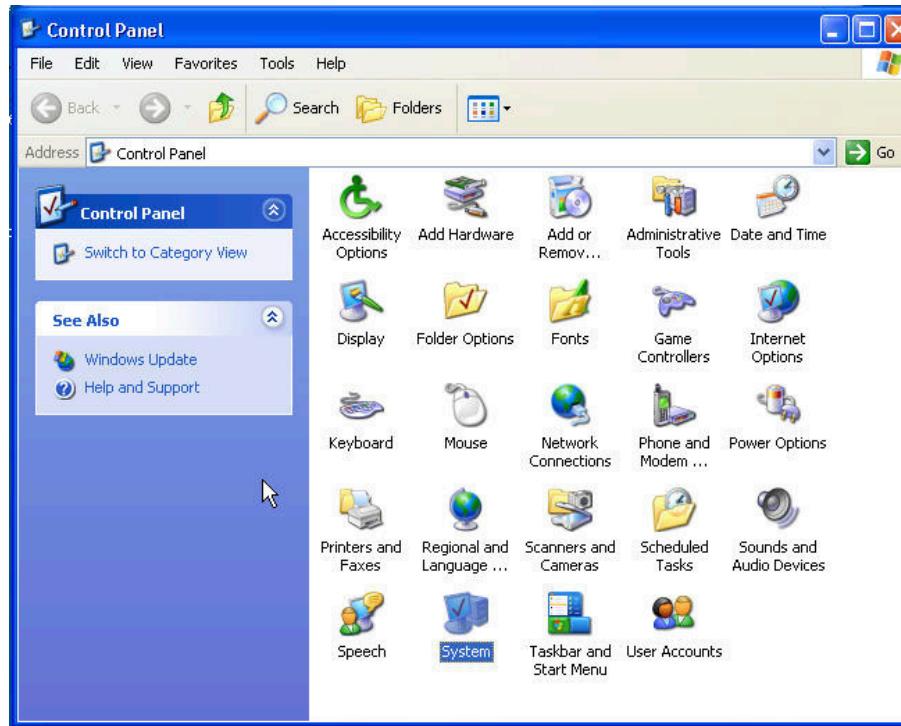
Price range

Choose a price range to search in



#5 2D Menus

- In 2D menus, choices are laid out in a 2D fashion
 - Good overview
 - Allow rapid selection (no need to scroll)



#6 Embedded Menus

- Embedded menu is a form of menu where the list of menu items will be displayed within the list of information that is being displayed
 - an alternative to explicit menus
 - imagine that all “data” could be menu “choices”

Hazard Function



COMMENT
On this Page

The hazard function (also known as the failure rate, hazard rate, or force of mortality) $h(x)$ is the ratio of the probability function $P(x)$ to the survival function $S(x)$, given by

$$\begin{aligned} h(x) &= \frac{P(x)}{S(x)} \\ &= \frac{P(x)}{1 - D(x)}, \end{aligned}$$

where $D(x)$ is the distribution function (Evans et al. 2000, p. 13).

SEE ALSO: Mills Ratio, Probability Function, Survival Function. [Pages Linking Here]

Example: the highlighted text with a hotspot

#6 Embedded Menus

- Graphical embedded menu



GIS (Geographical information system): not necessary text

Today's Topics

- Menu selection: making choices
 - Single menus
 - **Multiple menus**
 - Menu contents
- Form fill-in for data entry
- Dialog boxes: combination of menus and forms

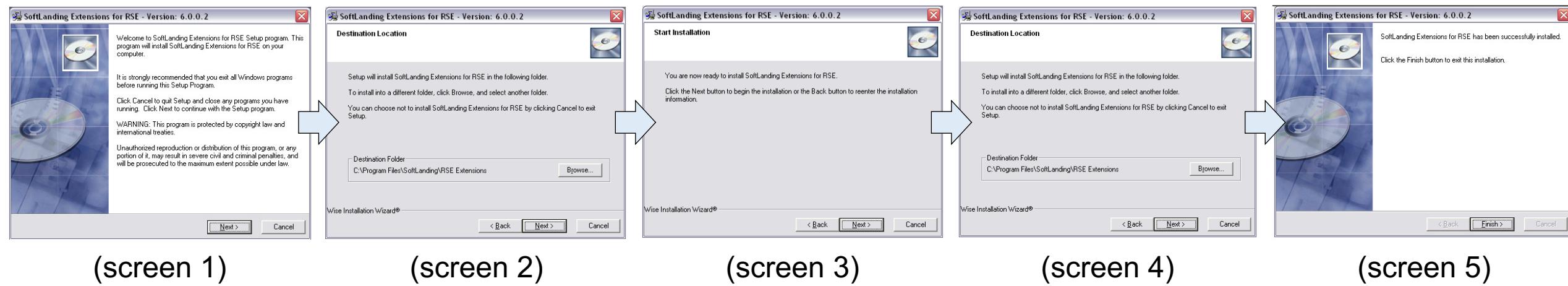
Combination of Multiple Menus

Strategies to combine multiple menus

1. Linear Menus
2. Simultaneous Menus
3. Tree-structured menus

#1 Linear Menus

- Guides the user in choosing a list of actions in a **particular sequence** appearing one after the other
 - E.g., ordering a pizza, software installation, ...
- Effective for novice users performing simple tasks



Good example: installation wizard

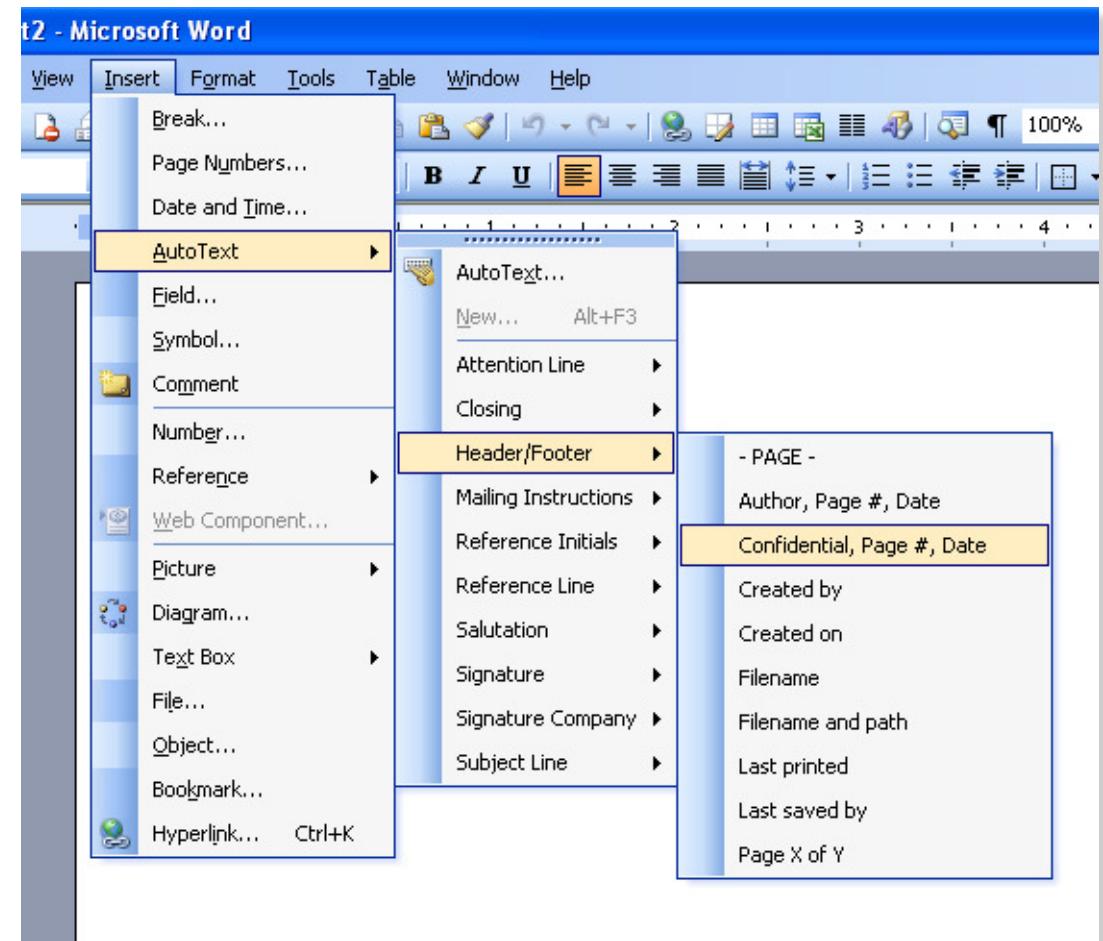
#2 Simultaneous Menus

- Present multiple active menus **at the same time** and allow users to enter choices **in any order**
 - Benefits: **effective** for many users, including expert users
 - Drawback: **consume screen space**

Select Flight for Thu, Jan 19					8 flight options: 1 - 8
Airline	Departure Time	Arrival Time	Total Travel Time	Roundtrip Price includes taxes and fees	
 Air China Intl Flight 976	9:30am Singapore, Singapore (SIN)	3:30pm Beijing, China (PEK)	6hrs - <u>Nonstop</u>	\$995 <small>per person</small> Select	
 China Southern Airlines Flight 352 / 3161	8:35am Singapore, Singapore (SIN)	5:10pm Beijing, China (PEK)	8hrs 35min - <u>1 Stop</u> Change planes in Guangzhou, China (CAN)	\$1,519 <small>per person</small> Select	
 China Southern Airlines Flight 352	8:35am Singapore, Singapore (SIN)	5:15pm Beijing, China (PEK)	8hrs 40min - <u>1 Stop</u> Change planes in Guangzhou, China (CAN)	\$1,519 <small>per person</small> Select	
 Air China Intl Flight 1340					
 China Eastern Airlines Flight 544 / 5155	12:55am Singapore, Singapore (SIN)	9:55am Beijing, China (PEK)	9hrs - <u>1 Stop</u> Change planes in Shanghai Pu Dong, China (PVG)	\$1,519 <small>per person</small> Select	

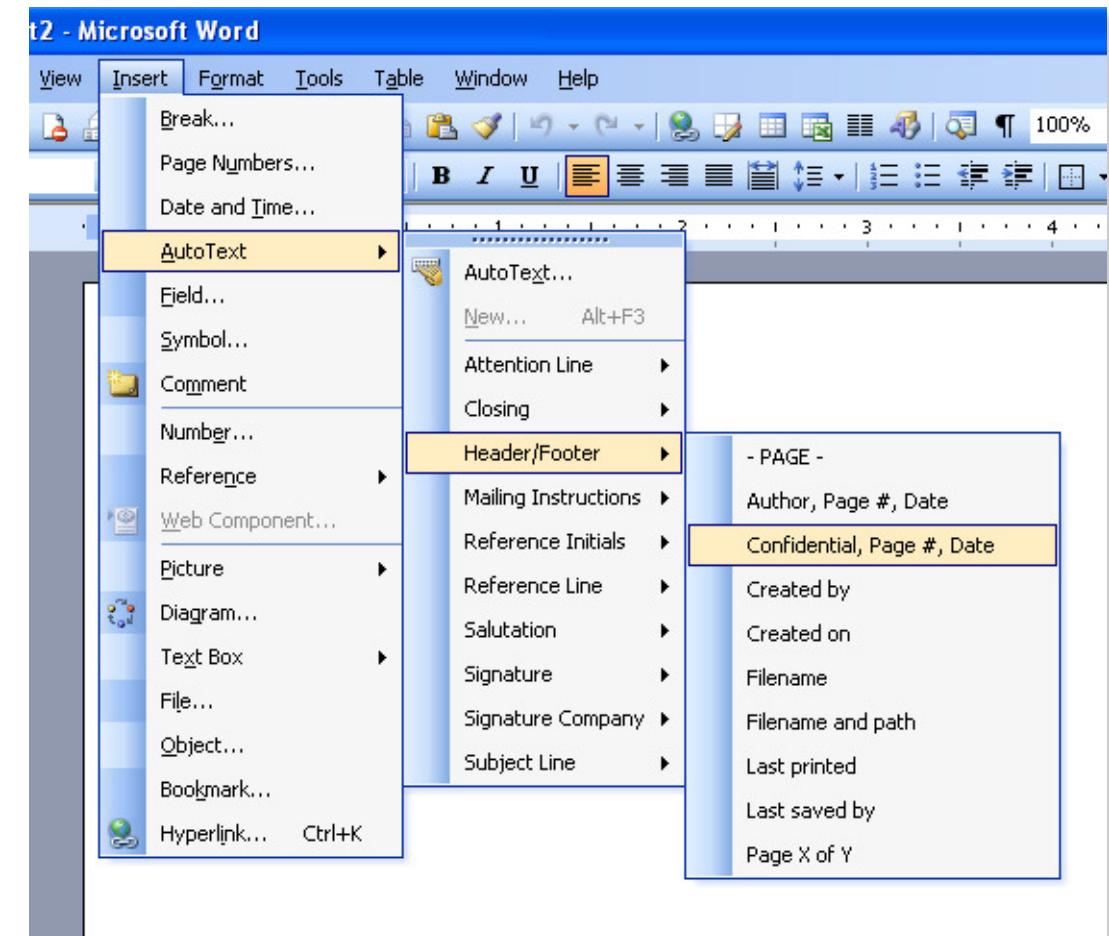
#3 Tree-structured Menus

- Tree structured menus are sequence of menus depends on the choices made by the user
- Allows only one way to reach each menu item
- Designers can form categories of similar items to create a tree structure



#3 Tree-structured Menus

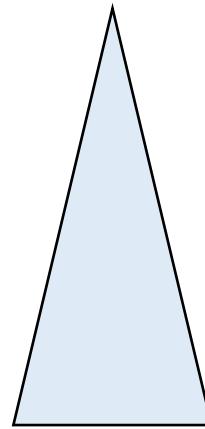
- Advantages
 - Identification of the menu items is easy
 - Expanding menus maintain the full context of each choice
 - Save screen space
- Disadvantages
 - Bad designs can quickly confuse and slow down users
 - Grouping the menu choices may be complex



#3 Tree-structured Menus: Terminology

- Depth – number of levels of a tree
- Breadth – number of items per level

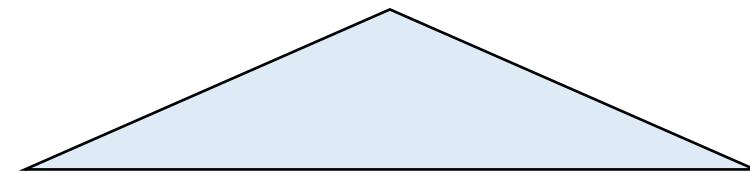
Narrow-and-Deep



Lots of sub-menus
Few choices (items) in each menu

Depth is large, Breadth is small

Broad-and-Shallow

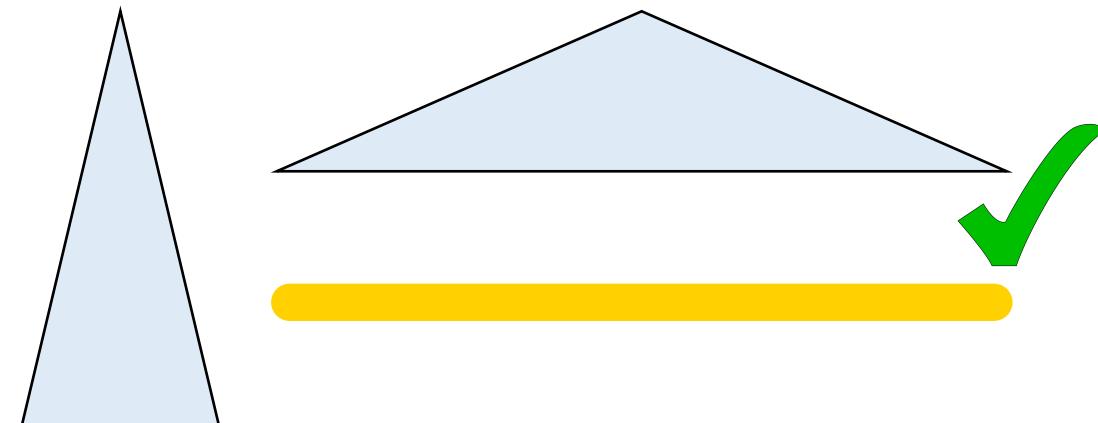


Few sub-menus
Many choices (items) in each menu

Depth is small, Breadth is large

#3 Tree-structured Menus: Depth/Breadth Tradeoff

- Kiger'84, Chin'88, Salvendy'96
 - Suggest if Depth > 3 then users is more likely to get “lost” when navigating the menu
 - Also found that response time and errors increase as depth increases
- Shneiderman'87
 - Showed that “stressed” users made 97% more mistakes in deep-tree menus than shallow-tree ones
 - Get lost
 - Afraid of making a wrong choice previously



#3 Tree-structured Menus: Depth/Breadth Tradeoff

- Time, T , to find an item at a given menu level can be modeled by equation:

$$T = k + c * \log b$$

where k and c are empirically determined constants and b is the number of items at that level (breadth).

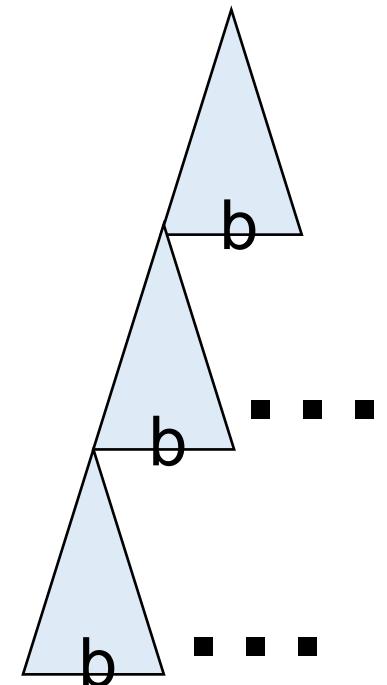
- Depth, i.e., the number of menu levels is: $D = \log_b N$

where N is the total number of items (on leaves) in the entire tree.

- Estimated overall time to find an item: total time = $D * T$

- Example: Given $N=4096$ and $b=16$, we have $D=3$

*Then, total time = $3 * (k + c \log 16)$*



Today's Topics

- Menu selection: making choices
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 - Multiple menus
 - **Menu contents**
- Form fill-in for data entry
- Dialog boxes: combination of menus and forms

Menu Contents

Guidelines to create and organize menu contents

- Use task semantics to organize menus (single, linear sequence, tree structure, acyclic and cyclic networks)
- Prefer broad–shallow to narrow–deep
- Show position by graphics, numbers, or titles
- Use items as titles for subtrees
- Group items meaningfully
- Sequence items meaningfully
- Use brief items, begin with the keyword
- Use consistent grammar, layout, terminology
- Allow type ahead, jump ahead, or other shortcuts
- Enable jumps to previous and main menu
- Consider online help; novel selection mechanisms; and optimal response time, display rate, screen size

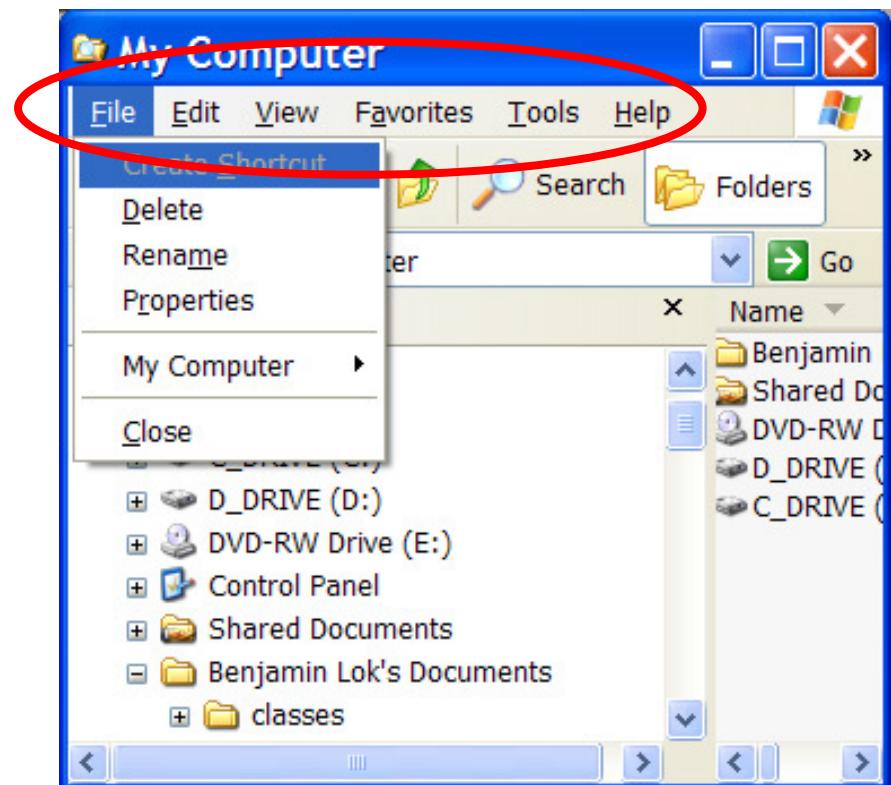
Menu Contents

Four issues about menu contents

1. Task-related grouping in tree structure
2. Item presentation sequence/order
3. Menu layouts
4. Fast movement Through Menus

#1 Task-related Grouping in Tree Structure

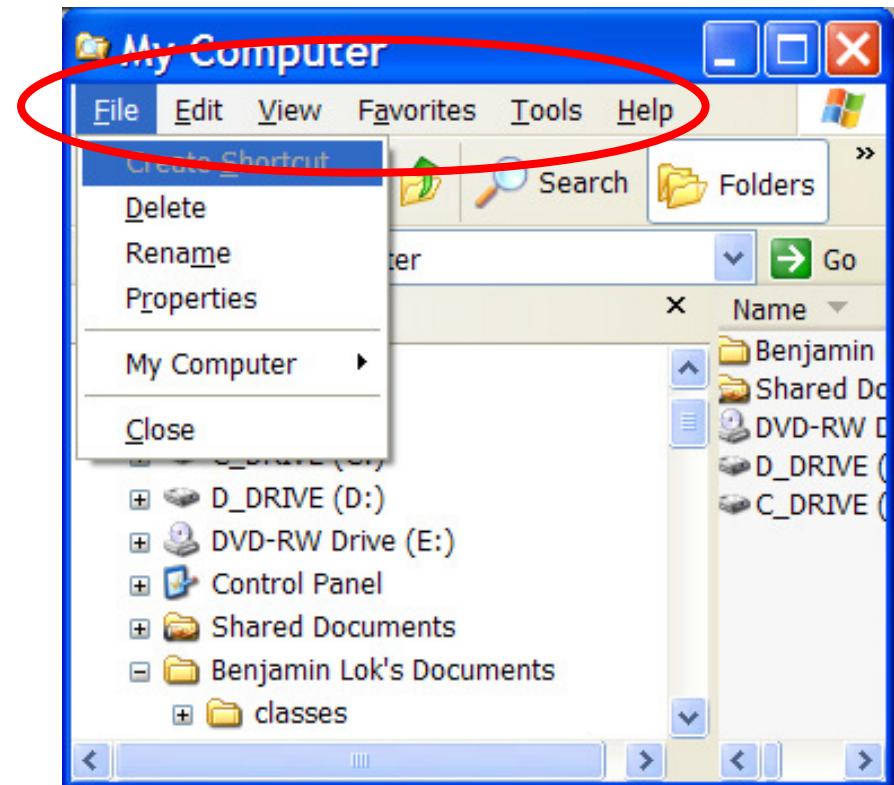
- How should we group menu items?
 - Logical groups – countries, states, cities
 - Covers all possibilities – alphabets, #s
- Make sure items are non-overlapping
 - Use categories that are unambiguous when breaking down choices
 - For example:
 - Event vs. Entertainments (ambiguous)
 - Sports vs. Concert (unambiguous)



#1 Task-related Grouping in Tree Structure

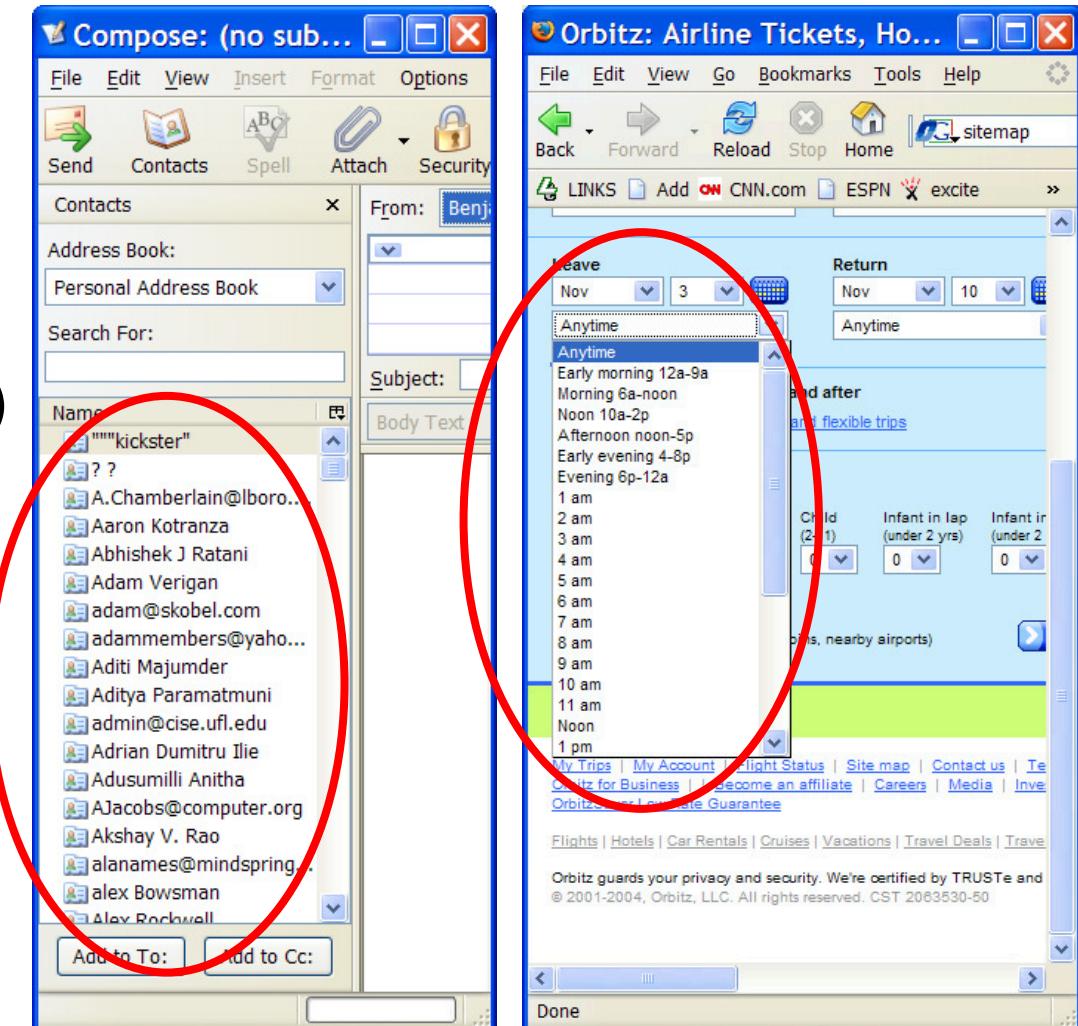
- Use familiar but distinct terminology
 - 6 AM to 6 PM is better than “Daytime”
- Get real user feedback after initial design
 - Do testing . . especially if you are designing for a domain you are not an expert in.

If you are making a medical system...
The terminology used?



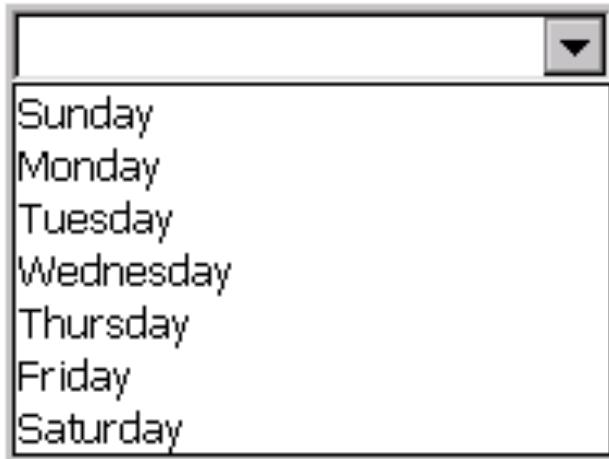
#2 Item Presentation Sequence

- Natural methods should be used if they exist
 - Time (days of week, etc.)
 - Numeric ordering
 - Physical properties (small, medium, large)
- Otherwise try:
 - Alphabetic (ex. contact list)
 - Grouping of Related Items
 - Frequent Items First
 - Important Items First



#2 Item Presentation Sequence

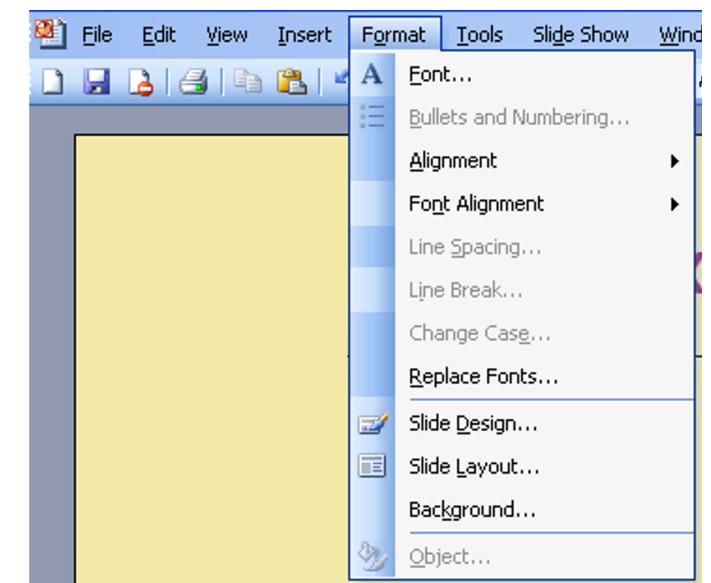
- Example ways to present menu items



Selections ordered by days
of the week (**natural**)



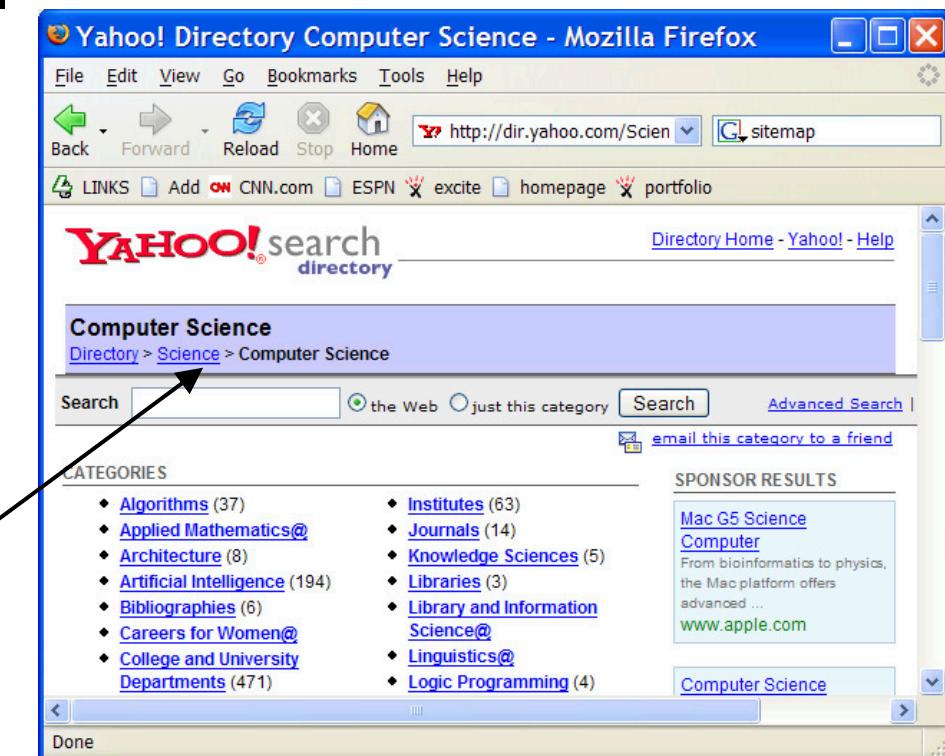
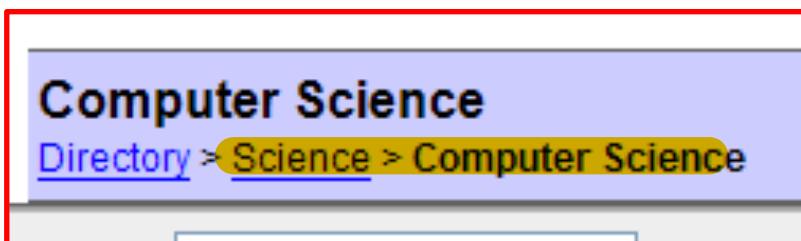
Font names are **alphabetical**



Format menu has “Font” first . . .
most used item. (**frequency**)

#3 Menu Layout

- Titles
 - Use descriptive terms, as opposed to vague terms
 - Use **high level selection** as a title for lower level menus (reassuring users; more confidence)
 - Avoid placing items at different locations in multiple menus (Teitelbaum '83).



#3 Menu Layout

- Phrasing and Formating
 - Use familiar and consistent terminology:
 - Bad Example: Purge and Delete in Outlook is confusing
 - Ensure items are distinct from one another
 - Bad Example : tours to countryside; tours to parks; leisure tours; ...
 - Use consistent and concise phrasing
 - Review the collection of items
 - Good: Animal, Vegetable, Mineral
 - Bad: Information on Animals, Vegetables choices, Mineral types
 - Bring the keyword to the foreground (first word, bold, verb, etc.)
 - Example: Size of type vs. Set type size

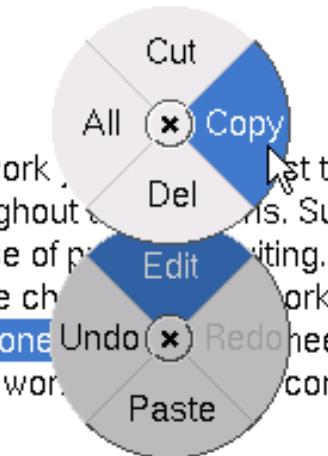
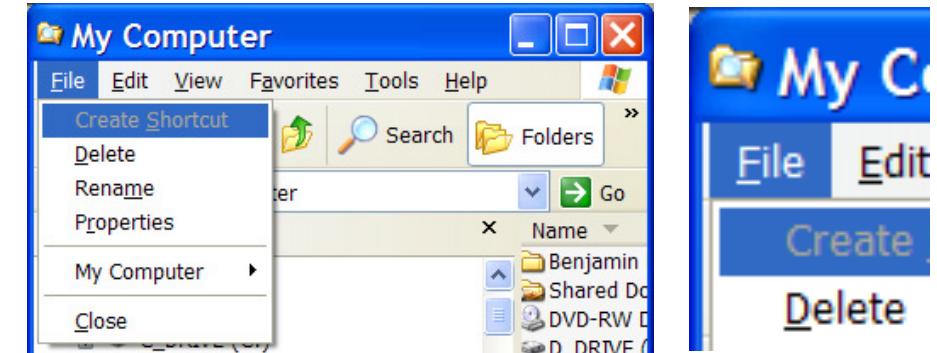
#3 Menu Layout

- Graphic Layout and Design
 - Screen size considerations
 - Bandwidth/latency
 - Layout Guidelines
 - Titles are left justified or centered
 - Items are left justified
 - Consistent numbering and lettering (easier to scan up and down)
 - Instructions (consistent and non-invasive)
 - Status reports – show users (Position markers) where they are in the menu hierarchy (consistent location) – see below



#4 Fast Movement Through Menus

- Keyboard **shortcuts**
 - Evolution for novices is natural
 - Faster vs. hand to mouse, move, and select
 - Use clear mnemonic choices
- Pie menus
 - Mouse ahead by relying on muscle memory to reproduce the angular displacement



ALT-F to bring the menu
Then, follow by d, m, r or c

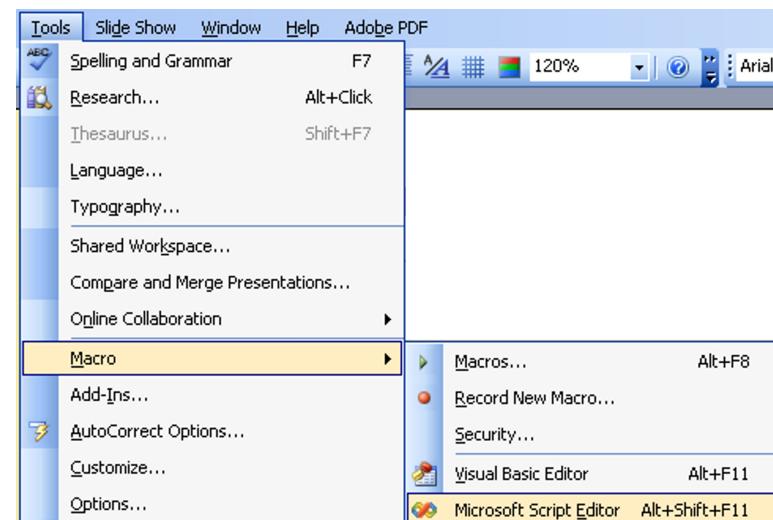
#4 Fast Movement Through Menus

- **Bookmarks**

- User can customize
- Could require hierarchies
- E.g., favorite in Internet

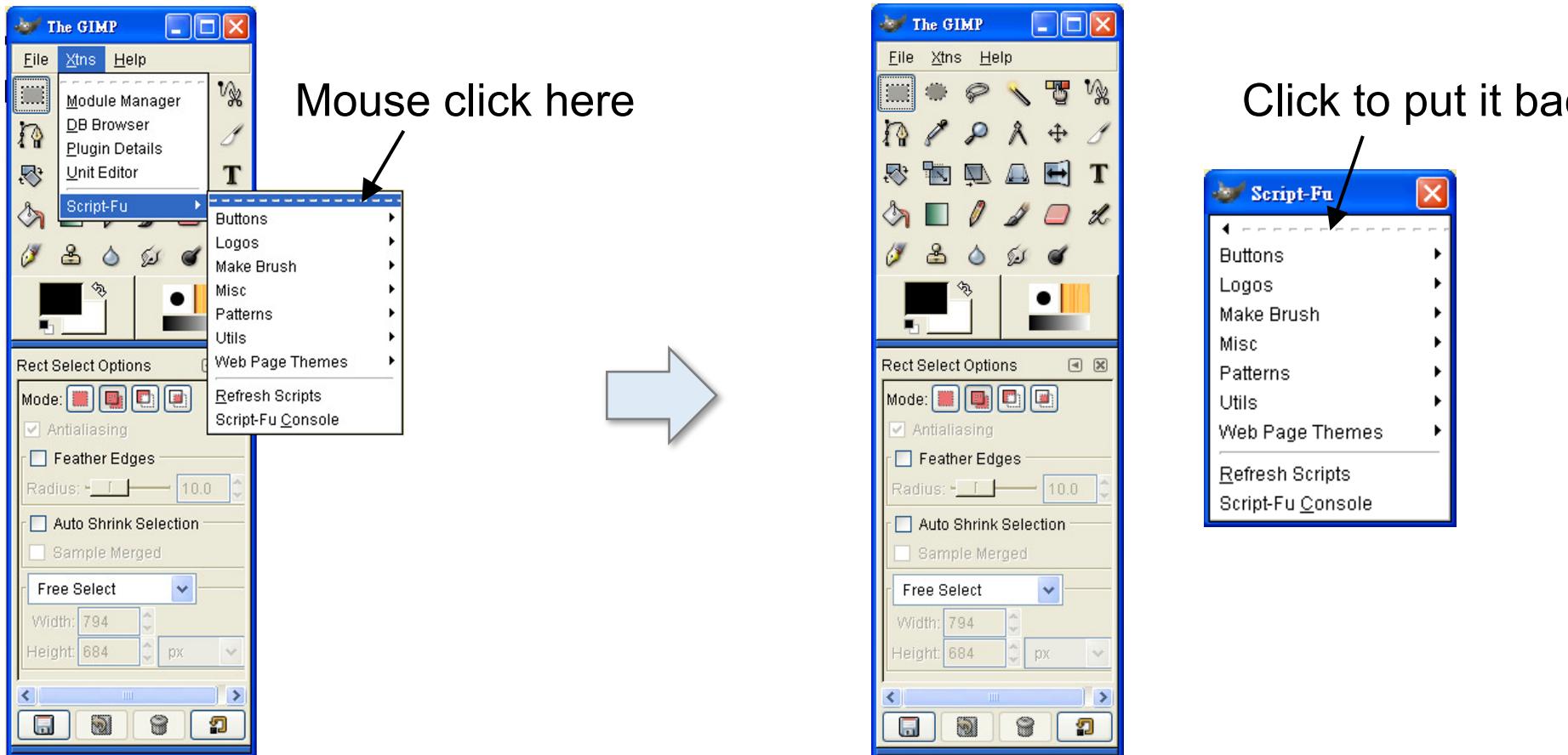
- **Menu Macros**

- Record actions, and create a new toolbar button
- Style sheets in word processors
- Even programmable



#4 Fast Movement Through Menus

- Tear off menus (like adaptive menus)
 - When needing a low-level menu multiple times, separate it from the main menu



Today's Topics

- Menu selection: making choices
 - Single menus
 - Multiple menus
 - Menu contents
- **Form fill-in for data entry**
- Dialog boxes: combination of menus and forms

Data Entry: Menus vs. Form Fill-in

- Menus usually choose from a list
- But some tasks (data entry) are better via other inputs, e.g., keyboard
- Form Fill-in
 - Confidence, natural; resembles familiar paper forms
 - Standard interface for complex searches, e.g., the web

The screenshot shows a Mozilla Firefox browser window with the title bar "Amazon.com - Address Book - Mozilla Firefox". The address bar displays the URL "http://www.amazon.com/form_fillin". The main content area is a form titled "Edit your address". It contains fields for Full Name (Benjamin Lok), Address Line 1 (4000 NW 51st St. Apt. D75), Address Line 2 (empty), City (Gainesville), State/Province/Region (FL), ZIP/Postal Code (32606), Country (USA), and Phone Number (704-258-3624). Below this is an optional section titled "Optional: Define your 1-Click settings" with a note about using 1-Click to send orders. It includes a checkbox for "1-Click dropdown" (checked) and a dropdown menu for "How address appears in 1-Click dropdown box" set to "Benjamin Lok". At the bottom, there is a "Shipping method" section with a radio button for "Standard Shipping (3-5 business days)". The "Done" button is at the very bottom right.

Data Entry with Form Fill-in

- Appropriate when many fields of data must be entered:
 - Full complement of information is visible to user
 - Display resembles familiar paper forms
 - Few instructions are required for many types of entries
- Users must be familiar with:
 - Keyboards
 - Use of TAB key or mouse to move the cursor
 - Error correction methods
 - Field-label meanings
 - Permissible field contents

The screenshot shows a Mozilla Firefox browser window displaying an 'Address Book' form on the Amazon.com website. The title bar reads 'Amazon.com - Address Book - Mozilla Firefox'. The main content area contains a form titled 'Edit your address' with the following fields:

Full Name:	Benjamin Lok
Address Line 1:	4000 NW 51st St. Apt. D75
Address Line 2:	
City:	Gainesville
State/Province/Region:	FL
ZIP/Postal Code:	32606
Country:	USA
Phone Number:	704-258-3624

Below the address fields is a 'Continue' button. Further down, there is an 'Optional: Define your 1-Click settings' section with the following options:

- 1-Click dropdown: Include address in your 1-Click dropdown box
- How address appears in 1-Click dropdown box: Benjamin Lok
- Shipping method: Standard Shipping (3-5 business days)

At the bottom of the form is a 'Done' button.

Form Fill-in Design Guidelines

- Meaningful title
- Consistent terminology and abbreviations
- Comprehensible instructions
- Logical grouping and sequencing of fields
- Visually appealing & clear layout of the form
- Familiar field labels
- Visible space and boundaries for data-entry fields

The screenshot shows a web browser window for Mozilla Firefox displaying the 'Amazon.com - Address Book' page. The URL in the address bar is http://www.amazon.com/form_fillin. The page content is as follows:

Edit your address

Full Name:	Benjamin Lok
Address Line 1:	4000 NW 51st St. Apt. D75
Address Line 2:	
City:	Gainesville
State/Province/Region:	FL
ZIP/Postal Code:	32606
Country:	USA
Phone Number:	704-258-3624

Continue ►

Optional: Define your 1-Click settings

Plan to use 1-Click to send orders to the address above? Please complete the following:

1-Click dropdown: Include address in your 1-Click dropdown box

How address appears in 1-Click dropdown box: Benjamin Lok

Shipping method: Standard Shipping (3-5 business days)

Done

Form Fill-in Design Guidelines

- Convenient cursor movement
- Error prevention
- Error messages for unacceptable values
- Error correction for individual characters and entire fields
- Optional/Required fields clearly marked
- Explanatory messages for fields
- Completion signal

The screenshot shows a Mozilla Firefox browser window displaying the 'Amazon.com - Address Book' page. The page title is 'Amazon.com - Address Book - Mozilla Firefox'. The address bar shows the URL 'http://www.amazon.com/form_fillin'. The page content includes a message about future mailing labels appearing exactly as entered, a 'Where's My Stuff?' link, and an 'Edit your address' section. This section contains fields for Full Name (Benjamin Lok), Address Line 1 (4000 NW 51st St. Apt. D75), Address Line 2 (empty), City (Gainesville), State/Province/Region (FL), ZIP/Postal Code (32606), Country (USA), and Phone Number (704-258-3624). A 'Continue' button is located below these fields. Below the address section is an 'Optional: Define your 1-Click settings' section with a note about using 1-Click to send orders. It includes a checkbox for '1-Click dropdown' (checked) and a dropdown menu for 'How address appears in 1-Click dropdown box' containing 'Benjamin Lok'. The 'Shipping method' is set to 'Standard Shipping (3-5 business days)'. At the bottom right is a 'Done' button.

Good example

Alamo.com Membership Enrollment Form

Login and Password * Required Fields

Title	Mrs.
First Name	Catherine
Middle Initial	F
Last Name	Smith
Suffix	None
Email Address	catherine@email.com
Confirm Email Address	catherine@email.com
Create a Login Name (or use email address)	CW
Create a Password	***** Min. 6 characters and must contain at least one number
Confirm Password	*****

Password Clue

In case you forget your password this clue will help us retrieve and E-mail your password to you.

What is your mother's maiden name? * Leblanc

Type of Travel

Do you travel more on Leisure or Business

Alamo Programs

If you are a member of Quicksilver or our Corporate program, please enter your ID number below.

Quicksilver ID# F342768
(The number begins with an 'F')

Corporate ID# 2738217

Note fields required has a “*” by them.

Field Format

- Format-specific field, should provide some indications! Hence, clear and avoid errors.

- Telephone numbers

(___) - ___ - ___ or ___ - ___ - ___ or ___ - ___ - ___

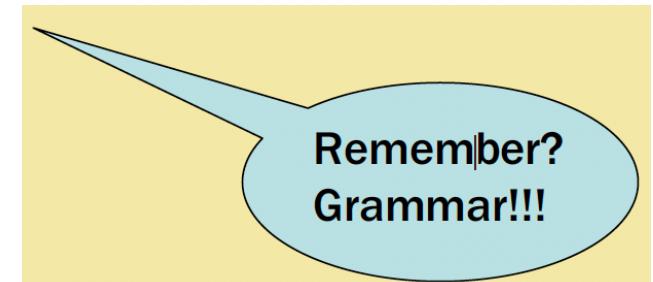
- ID Numbers

- Times: __ : __ AM/PM

- Dates: DD/MM/YYYY MM/DD/YYYY

- Dollar amounts (or other currency)

_____.00 or _____.__ or __, ____, ____.00



Bad Example

Apartmental Location Service Form

Please fill in the information below and we'll help you find the apartment of your dreams.

Name:

Current Address (street, city, state, zip) :

Email:

Phone (with area code):

When do you want to move in ?

- Address fill-in is not very rigid.
- What is the phone number format?
- Last question is unclear, maybe a date (or time of day?)
If so, what is the date format?

More efficiency in Form Fill-in

Search → Select → Review → Passengers → Payment → Confirmation

Enter Passenger Details

Travelling Party

The person paying is travelling on this booking: Yes No

Passenger 1

Personal Information - * indicates required field

Title* First/Given Name (as in passport) Last/Family Name* (as in passport)

Mr

This passenger will be at least 18 years old on the day of travel.

Continue as a KrisFlyer Member

KrisFlyer Number 6-Digit PIN

As a KrisFlyer Member you benefit from : - Faster Booking as your details will be auto- populated.
- Waiver of the Credit Card Check for certain bookings.

Continue as a Guest

Contact Information - The travelling party's info is required in case of flight schedule changes.

Contact Phone* Phone Type*

Singapore 65 Mobile phone Please provide your mobile number to receive a SMS alert in the event of flight disruptions

Country Name Country Area Code* Phone Number*

Passport Information (Optional) - All travellers are required to have a valid passport for travel. Please provide your passport details to speed up your check-in time. You may also update this info after completing your booking.

Passport Number Nationality (as in passport) Gender Date of Birth

Male Female DD MM YYYY

Frequent Flyer Programme Frequent Flyer Number

Select

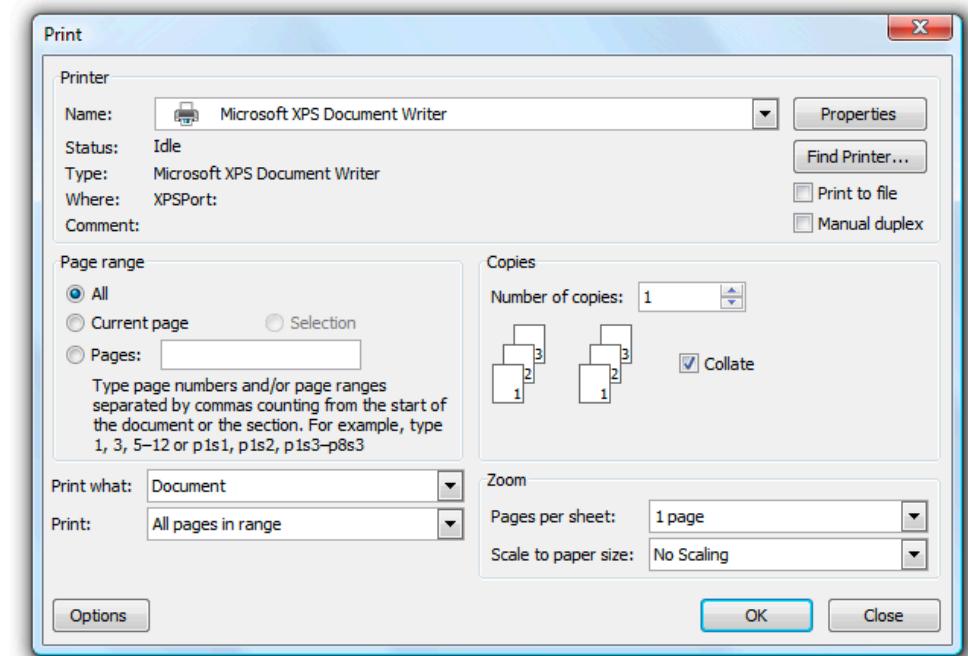
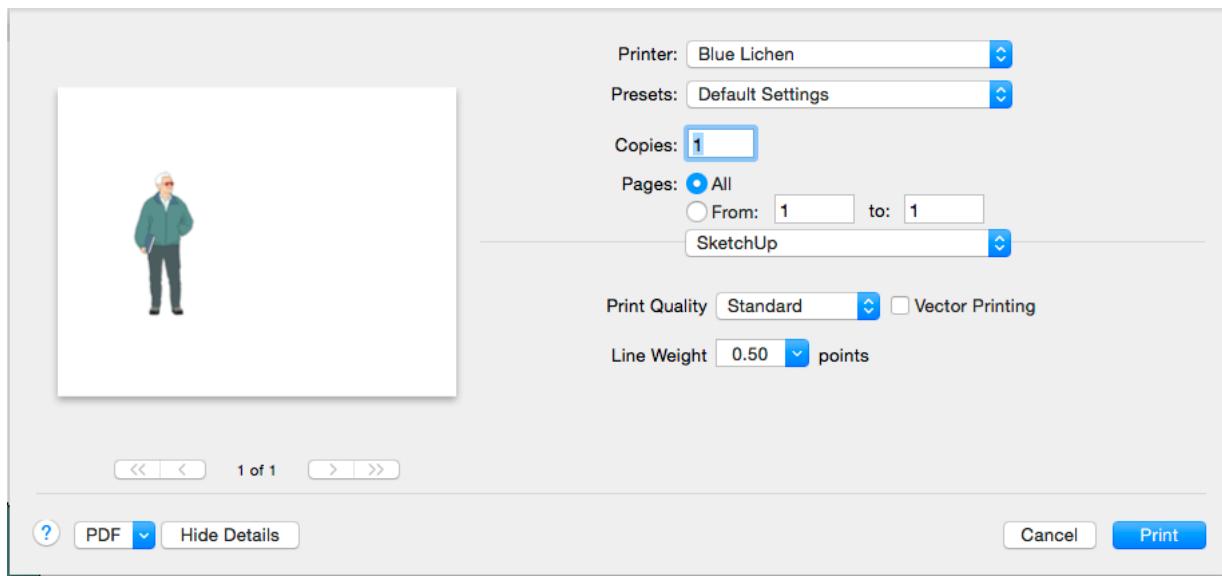
- Default values
- Tab key to go to next entry
- Fetch user records from Database

Today's Topics

- Menu selection: making choices
 - Single menus
 - Multiple menus
 - Menu contents
- Form fill-in for data entry
- Dialog boxes: **combination of menus and forms**

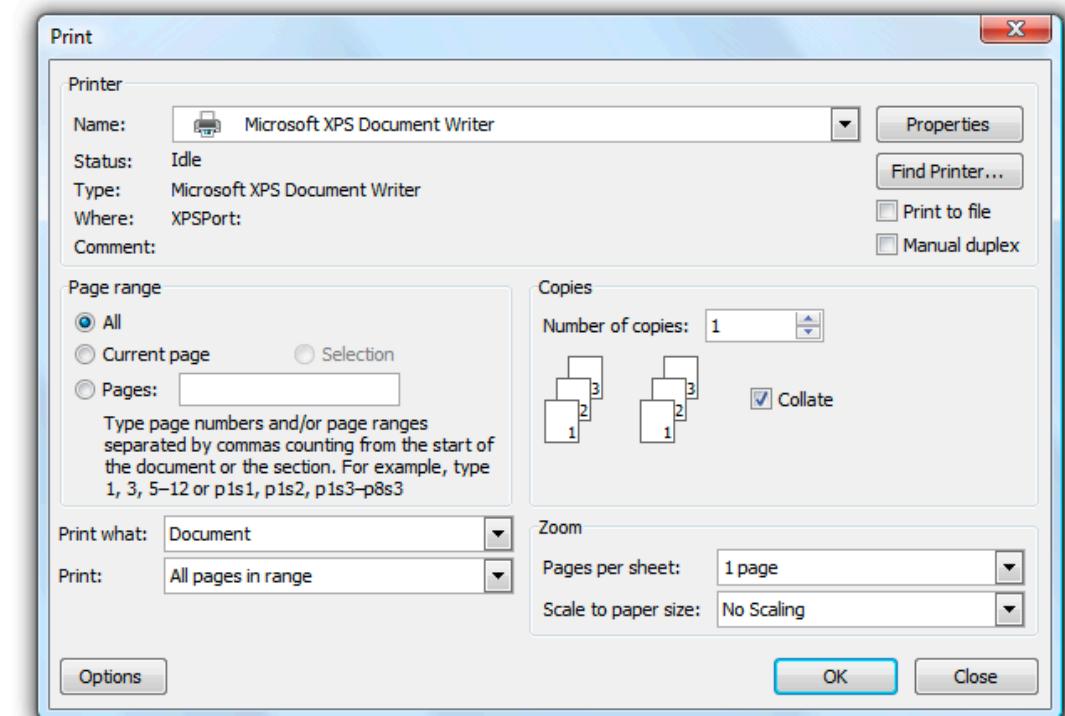
Dialog Boxes

- Graphical control element in the form of a small window that communicates information to the user and **prompts** them for a response
 - Combination of menu and form fill-in techniques
 - Good for **important tasks** or events where limited data is needed



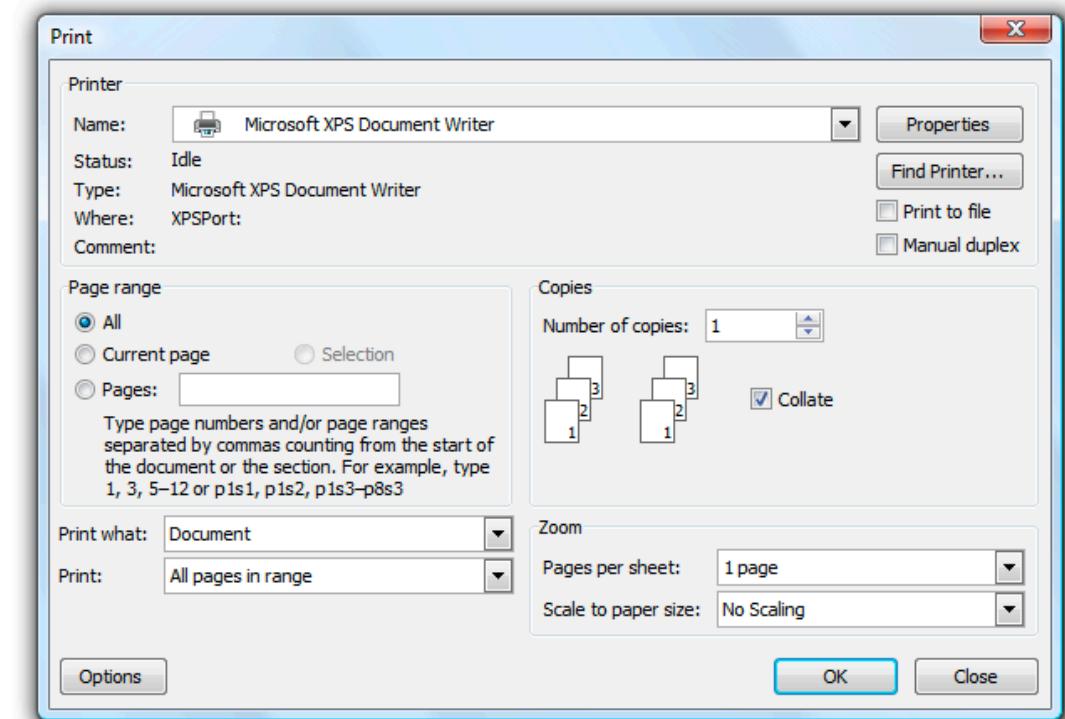
Dialog Boxes

- Internal layout guidelines
 - Meaningful title, consistent style
 - Top-left to bottom-right sequencing
 - Clustering and emphasis
 - Consistent layouts (margins, grid, white space, lines, boxes)
 - Consistent terminology, fonts, capitalization, justification
 - Standard buttons (OK, Cancel)



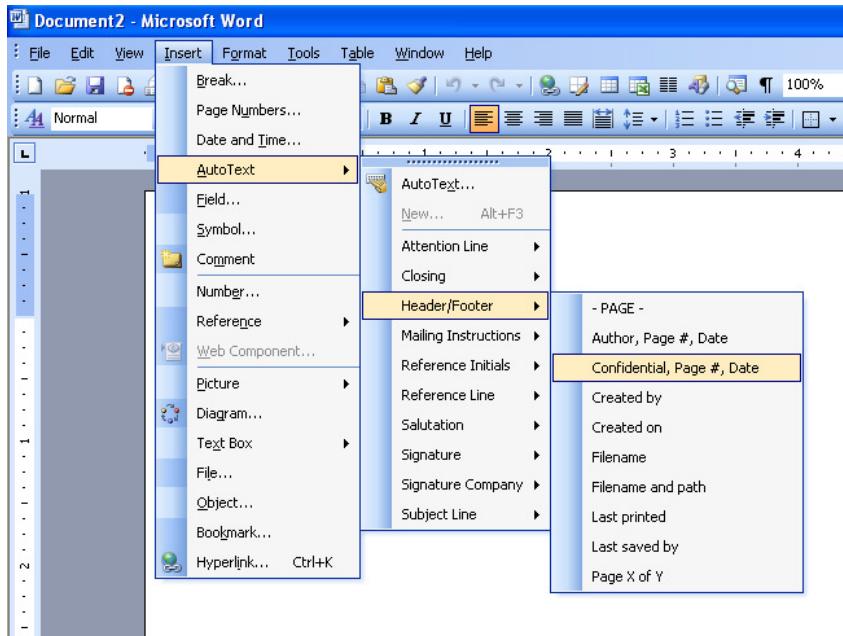
Dialog Boxes

- External Relationship
 - Smooth appearance and disappearance
 - Distinguishable but small boundary
 - Size small enough to reduce overlap problems
 - Display close to appropriate items
 - No overlap of required items
 - Easy to make disappear
 - Clear how to complete/cancel



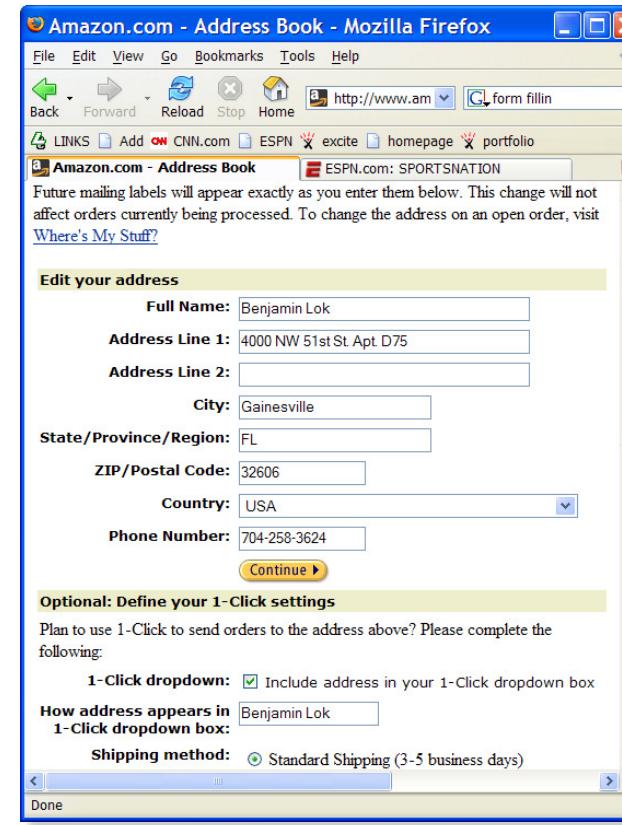
Summary

Menu selection

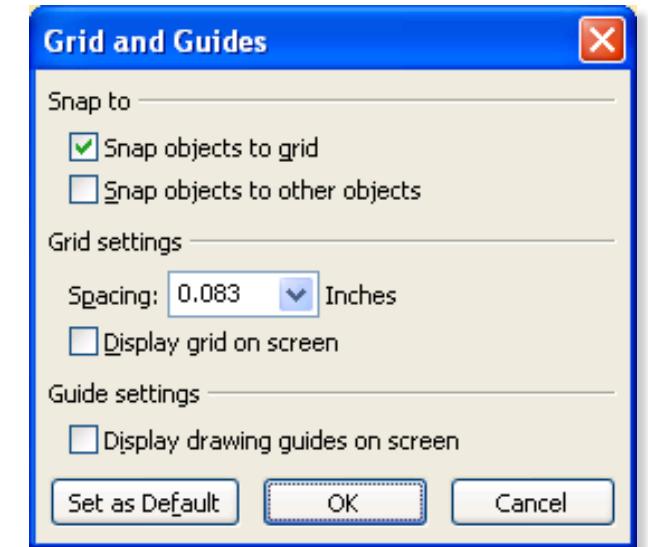


- Single menus
- Multiple menus
- Menu contents

Form fill-in



Dialog boxes



Coming Up

Next Monday: UI Design Methods

- Instructed by *Leong Hwee Teo*
- 13:30 - 15:00 by e-learning