

# SCREEN – BASED CONTROL

# Agenda

- ▶ Mengidentifikasi karakteristik dan kemampuan dari berbagai layar kontrol
- ▶ Memilih kontrol yang tepat bagi pengguna dan tugasnya

# Screen Control

- ▶ Sometimes called 'widgets'
- ▶ Widgets: the elements of a screen that constitute its body.
- ▶ Definition: objek grafis yang mewakili sifat atau operasi dari objek lain
- ▶ Functions:
  - Mengizinkan masuk atau pemilihan nilai tertentu
  - Mengizinkan perubahan atau penyuntingan suatu nilai tertentu
  - Menampilkan hanya bagian tertentu dari teks, nilai, atau grafis
  - Suatu perintah yang harus dilakukan
  - Memiliki jendela pop-up kontekstual

# Three Extremely Important Principles

- A control must:
  - Look the way it works
  - Work the way it looks
- “Look” “enter-ability” or “click-ability”
- Used exactly as its design intended
- Presented in a standard manner

Example:

- Windows XP:
  - Raised elements can be pressed
  - Recessed elements can not be pressed
  - Elements on a flat white background can be opened, edited, or moved

# Operable Controls

- ▶ ... are those that permit:
  - Entry
  - Selection
  - Changing
  - Editing
  - Cause a command to be performed
- ▶ Here are the classes... (next slide)

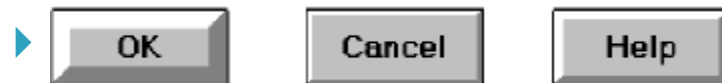
# 1 – Operable Buttons

## ▶ Description

- Suatu pengendalian persegi atau berbentuk persegi panjang dengan label di dalam yang menunjukkan tindakan yang harus diselesaikan
- Label dapat terdiri dari teks, grafis, atau keduanya

## ▶ Purpose

- To start actions
- To change properties
- To display a pop-up menu



Command buttons



Toolbar buttons

# 1 – Operable Buttons

## ▶ Keuntungan

- Selalu terlihat, mengingat salah satu pilihan yang tersedia
- Mudah
- Dapat diselenggarakan secara logis dalam pekerjaan daerah
- Dapat memberikan gambaran yang berarti dari tindakan yang akan dilakukan
- ukuran lebih besar biasanya memberikan target seleksi lebih cepat
- Dapat memiliki penampilan 3-D
  - Menambah gaya estetik menyenangkan untuk layar
  - Menyediakan umpan balik visual melalui gerakan tombol bila diaktifkan
- Dapat mengizinkan penggunaan keyboard dan akselerator setara
- Lebih cepat daripada menggunakan menu bar dua langkah / urutan pull-down

## • Kekurangan

- Menghabiskan ruang layar
- Ukuran membatasi jumlah yang dapat ditampilkan
- Membutuhkan berpaling dari wilayah kerja utama untuk mengaktifkan
- Membutuhkan memindahkan pointer untuk memilih

# 1 – Operable Buttons

## ▶ To a window:

- To cause something to happen immediately
- To display another window
- To display a menu of options
- To set a mode or property value

## ▶ In a web

- Use links to show information

## • Things to consider:

- Usage
- Structure
- Labels
- Size
- Number
- Organization
- Intent indicators
- Expansion buttons
- Default
- Keyboard equivalent / accelerators
- Button activation

Color & layout



# 2 – Text Entry / Read only controls

- Usually referred as “*field*” or “*text-box*”
  - *Unprotected*: a text box into which information can be keyed
  - *Protected*: A text box used for display purposes only
- Description
  - Usually rectangular in shape
  - Usually possesses a caption or label describing the kind of information contained within it
  - Two types exist
    - Single-line
    - Multiple-line
  - When first displayed, the box may be blank or contain an initial value
- Purpose
  - To permit the display, entering, or editing of textual information
  - To display read-only information

## 2 – Text Entry / Read only controls

- Advantages
  - Very flexible
  - Familiar
  - Consumes little screen space
- Disadvantages
  - Requires use of typewriter keyboard.
  - Requires user to remember what must be keyed
- Proper usage
  - Most useful for data that is
    - Unlimited in scope
    - Difficult to categorize
    - Of a variety of different lengths
  - When using a selection list is not possible

## 2 – Text Entry / Read only controls

### Single occurrence

Composition:

Or

Composition:

### Multiple occurrence

Offices:

### Read-only / display

Location:

Alice Springs  
Kakadu National Park  
Traralgon  
Wagga Wagga  
Whyalla

If alphanumeric then  
left justify

Balances:

12,642,123.05  
53.98  
355,125.44  
199.13  
612.01

If numeric then right  
justify

### Segmentation

Date:

Telephone:

Or

Date:  /

Telephone:  (  )  -

# 3 – Selection Controls

- ▶ Presents on the screen all the possible alternatives, conditions, or choices that may exist for an entity, property, or value

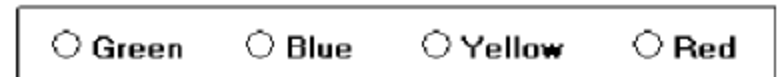
- ▶ Types

- Radio button
- Check box
- Palette
- List box
- List view control
- Drop-down / Pop-up list box



☐ Red  
☐ Yellow  
☐ Green  
☐ Blue

Or



☐ Green   ☐ Blue   ☐ Yellow   ☐ Red

### 3 – Selection Controls: **Radio button**

“Only one selection permitted”

Poor      Plan Choice:    ☐ Limited    ☐ Basic    ☐ Superior    ☐ Premium

Poor      Plan Choice:    Limited    Basic    Superior    Premium  
                         ☐           ☐           ☐           ☐

Poor      Plan Choice:    ☐ Limited   ☐ Basic   ☐ Superior   ☐ Premium

Poor      Plan Choice:    Limited   ☐   Basic   ☐   Superior   ☐   Premium   ☐

Better

Plan Choice:    ☐ Limited    ☐ Basic    ☐ Superior    ☐ Premium

### 3 – Selection Controls: **Radio button**

Still better

Plan Choice:	
<input type="radio"/> Limited	<input type="radio"/> Limited
<input type="radio"/> Basic	<input type="radio"/> Basic
<input type="radio"/> Superior	<input type="radio"/> Superior
<input type="radio"/> Premium	<input type="radio"/> Premium

Plan Choice:
<input type="radio"/> Limited <input type="radio"/> Basic <input type="radio"/> Superior <input type="radio"/> Premium

Best !

Plan Choice:
<input type="radio"/> Limited
<input type="radio"/> Basic
<input type="radio"/> Superior
<input type="radio"/> Premium

Plan Choice
<input type="radio"/> Limited
<input type="radio"/> Basic
<input type="radio"/> Superior
<input type="radio"/> Premium

Color
<input type="radio"/> Green <input type="radio"/> Blue <input type="radio"/> Yellow <input checked="" type="radio"/> Red

## 3 – Selection Controls: Check box

“Use for multiple selection”

- ☒ Bold
- ☐ Italic
- ☐ Subscript
- ☒ Underline

- ☒ Bold
- ☐ Italic
- ☐ Underline

- ☐ Always Create Backup Copy
- ☒ Allow Fast Saves
- ☐ Prompt for Document Properties
- ☐ Prompt to Save Normal Template
- ☐ Save Native Picture Formats Only
- ☐ Embed TrueType Fonts
- ☐ Save Data Only for Forms
- ☒ Automatic Save Every:

Earnings:

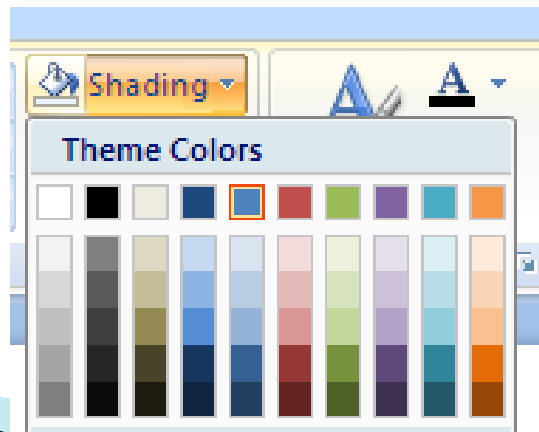
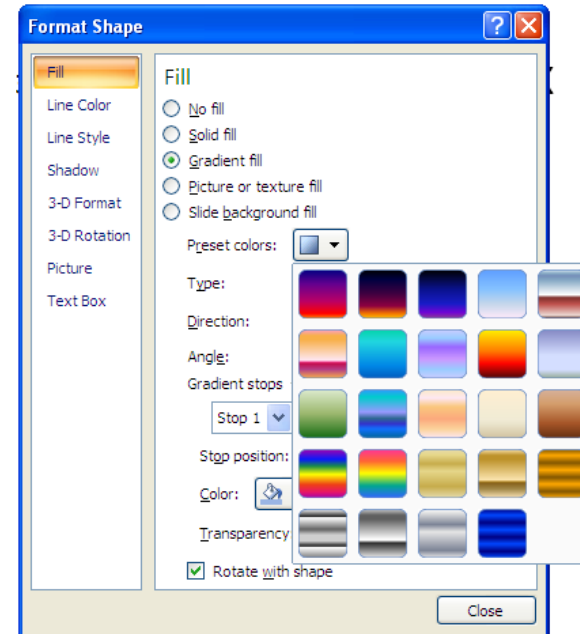
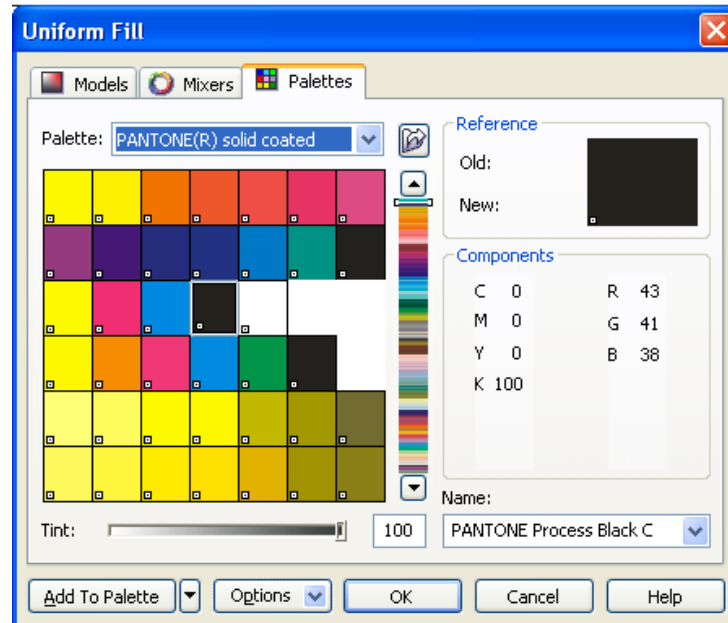
- ☐ Annual
- ☐ Quarterly
- ☐ Monthly
- ☐ Weekly

Earnings

- ☐ Annual
- ☐ Quarterly
- ☐ Monthly
- ☐ Weekly

Best !

# 3 – Selection Controls: Palette





### 3 – Selection Controls: **List box**

Events:

- Asterisk
- Chat Incoming Ring
- Chat Outgoing Ring
- Critical Stop
- Default Beep
- Exclamation
- Money Transaction Entry
- Question

Files:

- <none>
- chimes.wav
- chord.wav
- cointabl.wav
- ding.wav
- kerchunk.wav
- ringin.wav
- ringout.wav

List box with multiple selection

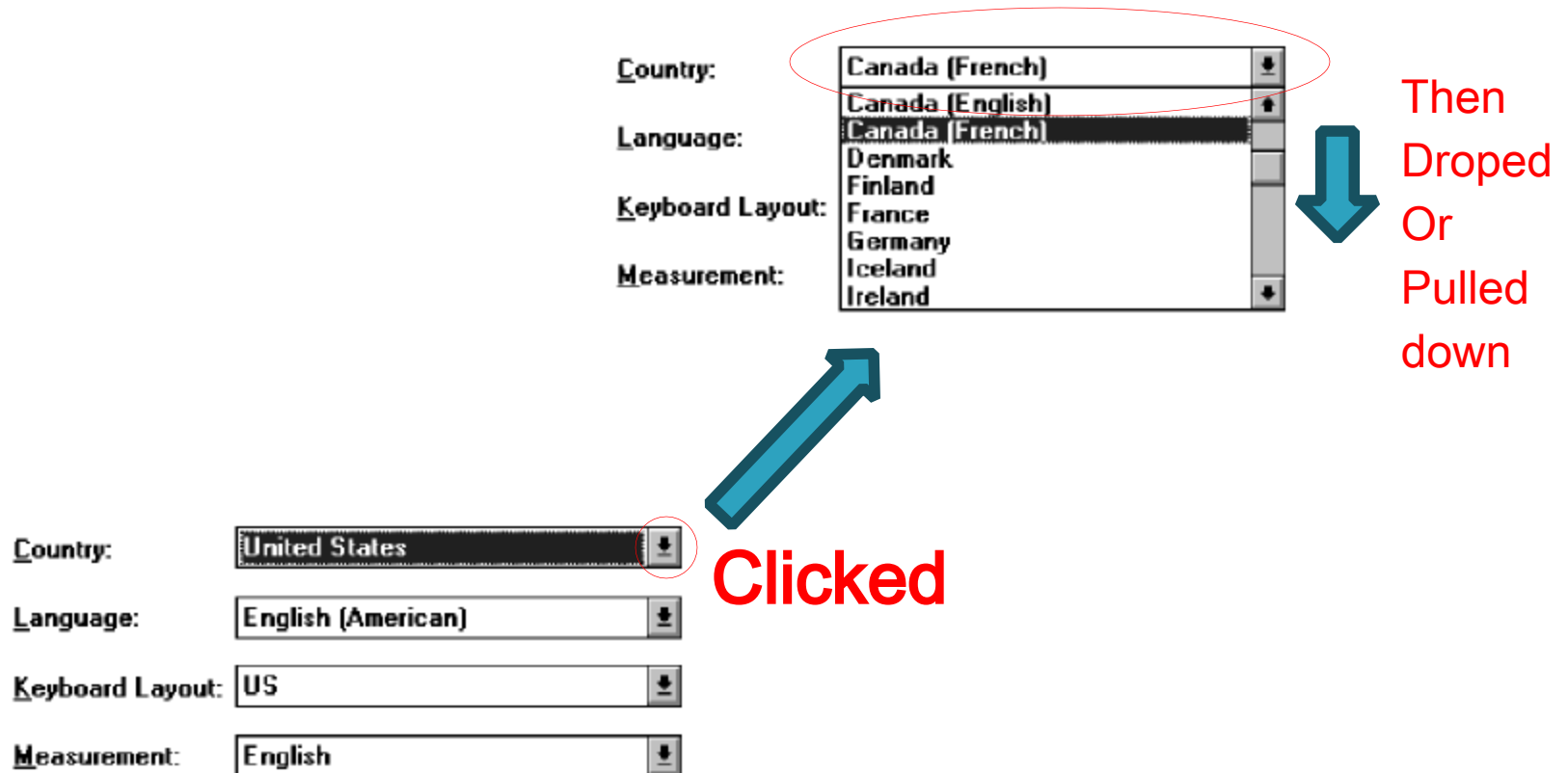
Groceries:

4

selected

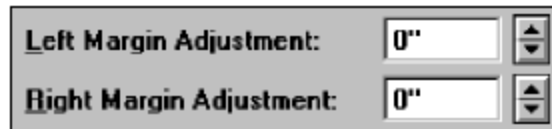
- ☒ Bread
- ☐ Cereal
- ☒ Dairy Foods
- ☐ Desserts
- ☐ Drinks
- ☐ Fruit
- ☒ Meat, Fish and Poultry
- ☐ Vegetables

### 3 – Selection Controls: Drop Down/Pull-down



# Combination Entry/Selection Controls

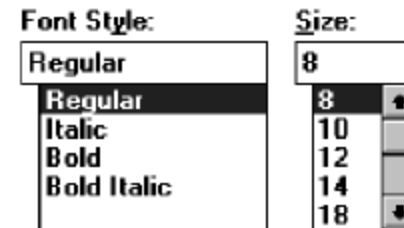
Spin boxes



Left Margin Adjustment: 0" [up/down arrows]

Right Margin Adjustment: 0" [up/down arrows]

Combo boxes



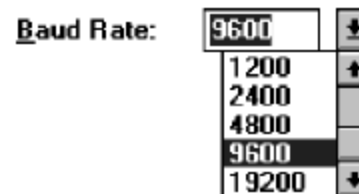
Font Style: Regular, Regular, Italic, Bold, Bold Italic

Size: 8, 10, 12, 14, 18

Combo box - Closed    Combo box - Opened



Baud Rate: 9600 [up/down arrows]

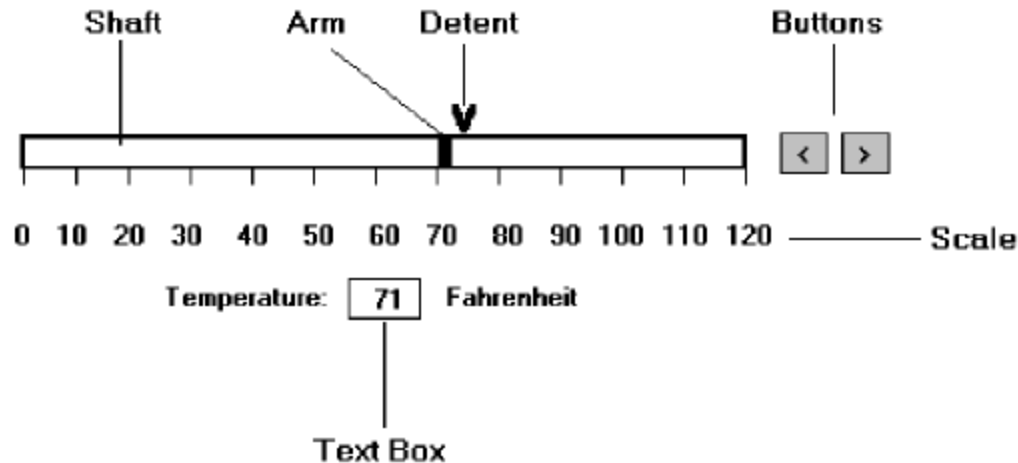


Baud Rate: 9600 [up/down arrows]

1200, 2400, 4800, 9600, 19200

# Other Operable Controls

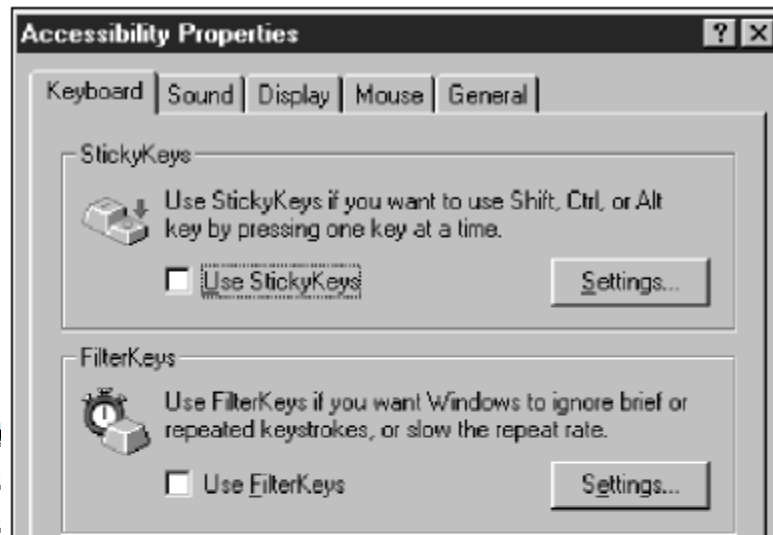
## Slider



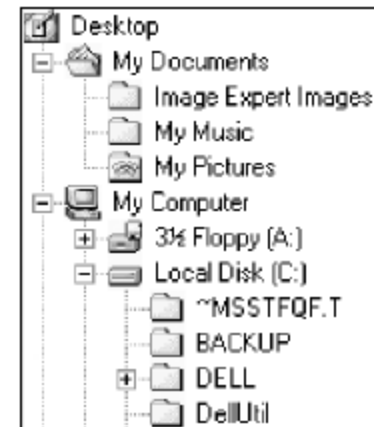
## Date picker



## Tabs

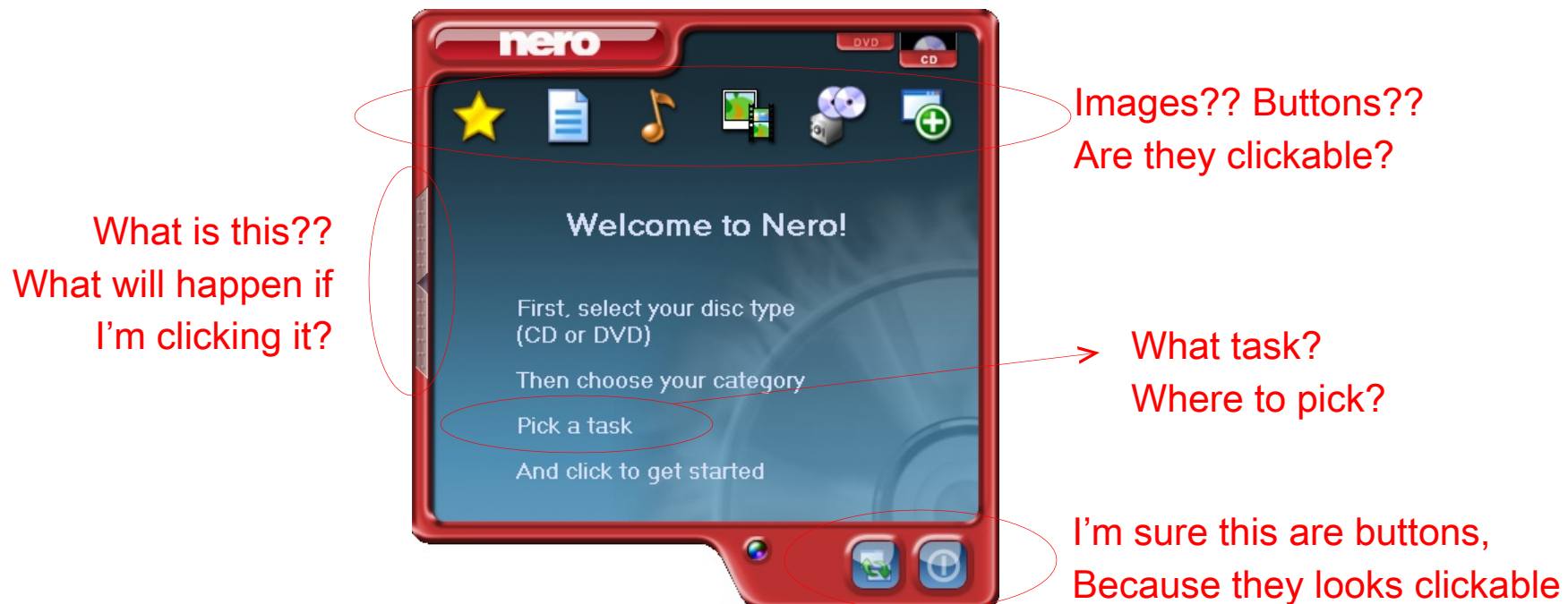


## Tree view



# Custom Controls

- ▶ Implement custom controls with caution
- ▶ The addition of custom controls adds to this learning and increases system complexity



# Presentation Controls

- ▶ Teks statis bidang: informasi read-only tekstual
- ▶ kotak Group: bingkai persegi panjang yang mengelilingi kontrol atau kelompok kontrol; keterangan opsional dapat disertakan.
- ▶ Kolom judul: informasi tekstual read-only yang berfungsi sebagai judul di atas kolom teks atau angka
- ▶ Alat ujung / balon tip: jendela pop-up kecil yang berisi informasi; bisa ditempatkan di balon

Static text

Caption:





HEADING

This message is very important!

Optional caption

Group Box

Column heading

Name	Size	Type	Modified
 11-12.bmp	233 KB	Bitmap Image	1/23/95 3:00 PM
 11-13.bmp	470 KB	Bitmap Image	1/23/95 3:01 PM
 11-14.bmp	151 KB	Bitmap Image	1/17/95 5:05 PM
 11-15.bmp	151 KB	Bitmap Image	1/17/95 5:06 PM

Column part

Tool tip / balloon tip



Time

78

You have entered an invalid character.  
Valid characters are 0 thru 9, \*, and #.

Progress indicators

Updating...

80% Complete



Stop

# Selecting the Proper Controls

- Choose familiar controls
- Consider the task
- Reduce the number of “clicks”
- Display as many control choices as possible
- When to permit text entry?
  - Permit text entry if any of the following questions can be answered “**Yes**”
    - Is the data unlimited in size and scope?
    - Is the data familiar?
    - Is the data not conducive to typing errors?
    - Will typing be faster than choice selection?
    - Is the user an experienced typist?



# Selecting the Proper Controls

- ▶ Buttons or Menus for commands?
  - Consider the following:
    - Whether or not the command is part of a standard tool set.
    - The total number of commands in the application.
    - The complexity of the commands.
    - The frequency with which commands are used.
    - Whether or not the command is used in association with another control.