

CE94930 — Introduction to Visual BASIC

- Last week -- user-defined datatypes
- Window design details
- Menus

User-defined datatypes

- Definition:
type person
 name as string
 rank as string
 serial_number as string
end type
- Declaration:
dim myself as person
dim squad(10) as person

User-defined datatypes

- Use:
 `myself.name = "Trevor Grove"`
 `myself.rank = "Commander-in-Chief"`
 `myself.serial_number = "1"`
 `...`
 `squad(0).name = "Fred Flintstone"`
 `...`
 `squad(1) = myself`

User-defined datatypes

- Nesting:
type full_name
 surname as string
 given as string
end type
type person
 name as full_name
 rank as string
 citations(10) as string
end type

User-defined datatypes

- `myself.name.surname = "Grove"`
`myself.name.given = "Trevor"`
...
`myself.citations(0) = "Order of Canada"`

Window design details

- Changes to improve UI
 - Reading order
 - Element-to-element tab ordering
 - Default and Escape buttons; Return
 - Double-clicking
 - Confirmation; undo where feasible

Reading order

- Follow natural language order: upper-left to lower-right, where possible
- Less distraction
- For data-entry, avoid keyboard -- mouse switching

Tab ordering

- Use “tab” key to move from field to field
- Important for data-entry
- Controlled with “TabStop” and “TabIndex” properties

Default, Escape & Double-click

- Properties of command buttons
- Carriage return same as click on default button
- Double-click corresponds to click on default button

Confirmation & Undo

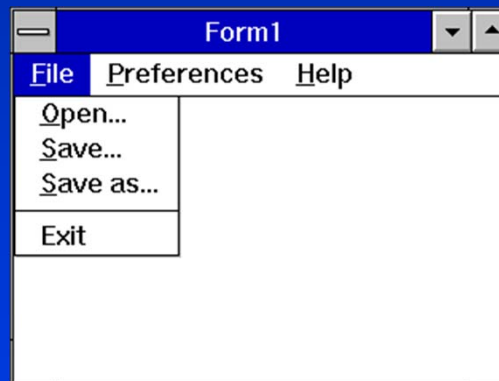
- Where possible
- Use “QueryUnload” event to test, reject termination
- Use “Unload” event for irrevocable action

Window design details

- Changes to improve UI
 - Dialogue labels...
 - Enabling and disabling controls
 - Redundancy
 - Experience, user-testing

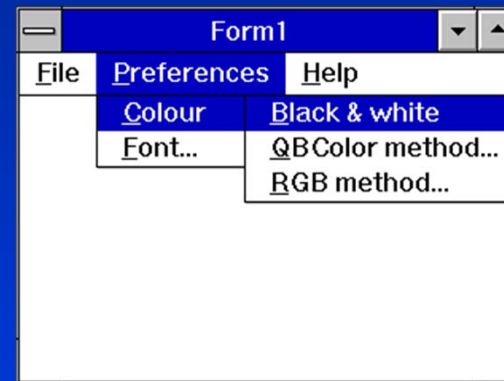
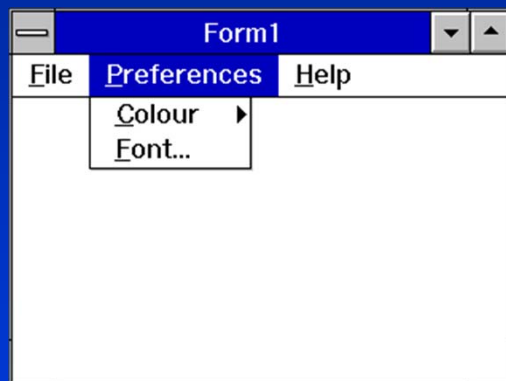
Menus

- What are menus?
- Nomenclature:



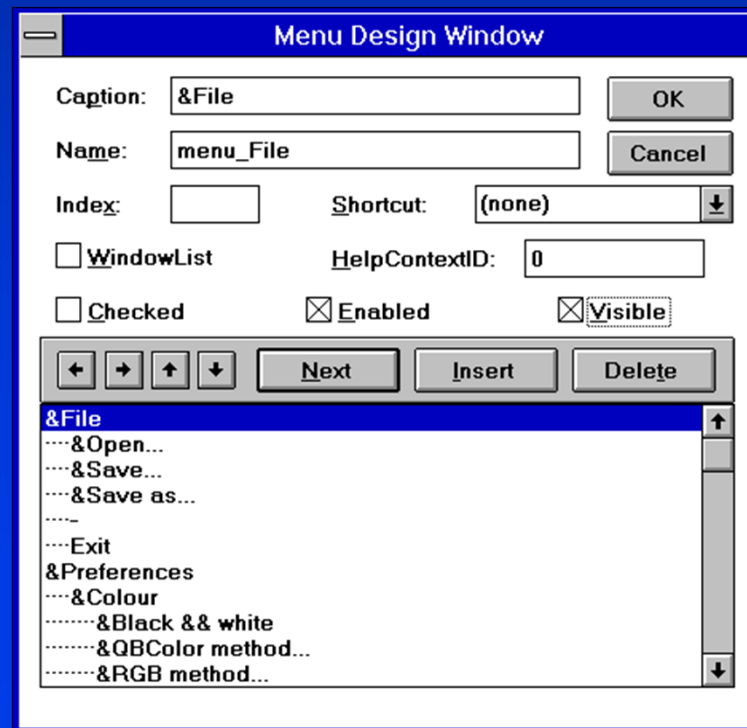
Menus

- Submenus



Menus

- Why use menus?
- Implementation details



Access vs short-cut keys

- Access keys: layer-by-layer, top level uses “alt”
- Created with “&” prefix
- Short-cut keys: direct access across all layers

Menu events

- Click
- Only for actual selectable items, not for submenu labels or separators

Menu design guidelines

- Alphabetic ordering wherever feasible:
 - across menu-bar
 - within menus; use groups to separate related functions
- Make liberal use of item enabling/disabling
- Don't nest too deep (only four allowed)
- Don't use instead of buttons

Demonstrations

- Simple menus
- Right-mouse-button popup menus