REAL TIME OPERATING SYSTEM PROGRAMMING-II: Windows CE, OSEK and Real time Linux

Lesson-8:
WCE Controls and Menus

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1. Windows Controls

Windows Controls

- Each Window uses the number of classes, called *Control*s.

- A control has number of user-interface elements.

- The user-interface examples are *button*, *radio* and *checkbox*.

- The user-interface elements are predefined for a Control and there exists a Windows Control library.

- Pre-definition and library help in each application window has same feel and look.

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Windows Controls

- A Control is also a Window and creates by CreateWindowEx or CreateWindow

- A control may be static control. It displays a text (as per defined alignment) or icon or bitmap

- A control is scroll bar control

2. Button Control for User Interface

Button

- Control for user interface is *Button*.

- Button appearance can be set.

- An owner window can also draw the owned button

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Push-button control

- Push-button control─ When stylus taps the button, it generates a WM_COMMAND message with a 16-bit parameter wParameter for the flag BN_CLICKED.

- BN_CLICKED flag specifies that button is clicked.

Checkbox button

- A square box with blank or filled circle or a label using which user specifies a choice by tap stylus at that point and which toggles between blank and filled.

- Checkbox toggles between two states.

Radio button

- Radio button─ a button to allow user to select among the interrelated choices and when one selects the other may unselect.

- Application checks or unchecks a radio button.

Group Box button

- It is an empty box with a text label.

- Text in the box gives the interface for programming

3. List Box control

List Box control

- Used for selecting among list of items displayed by text.

- WCE supports a constant string data style in list box control.

- Style LBS_EX_CONSTSTRINGDATA.

- Only the pointer to string saves at the Window not the string.

- The application is supposed to manage that string

4. Edit control

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Edit Control

- Used for keying in the text and for editing it.
- The keyed text is upper cases when ES_UPPERCASE style is set.
- When ES_LOWERCASE style, the edit text appears as lower cases.
- The keyed text is visible as *** when ES_PASSWORD style is set

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5. Combo Box Control

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Edit Control

- One can use two or more control in the combo box.
- A combo box in WCE is drop-down or drop-down list.
- Drop-down is an edit-text field control with a button on the right side.
- When this button is clicked a list box for selection appears.
- Drop-down list is a list of texts each with a button on the right side.
- The stylus taps at any one of it to choose

6. Windows Menus

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Windows Menus

- WCE menus ─ at the menu bar or command bar control.
- The CreateMenu, AppendMenu, InsertMenu ─procedures to create, append or inert a menu item.
- CreatePipupMenu─ a procedure to nest the menus.
- Window generates WM_COMMAND message and the ID parameter of the menu item is sent

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Summary

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We learnt

- WM_Command

- ID of Menu item

- WCE provisions for GUIs based on Windows, menus, dialog boxes, radio and check buttons.

End of Lesson-8 of chapter 10 on
WCE Controls and Menus