Changing the focus of a Symbian custom control

Overview

This code snippet shows how to add key event handling to the custom container control and how change focus of the selected component. The example extends the existing code snippet Constructing a Symbian container control. Check the SeeAlso section of this article for other snippets of the Custom Control series.

CMyContainerControl - Header

Add three methods to the `CMyContainerControl` component header for receiving key events and changing focus.

```
private:
    TKeyResponse OfferKeyEventL(const TKeyEvent& aKeyEvent,TEventCode aType);
public:
    void MoveFocusUp();
    void MoveFocusDown();
```

CMultiViewsView1 - Source

`CMyContainerControl` must be added to the control stack for receiving key events `AppUi()->AddToStackL()`.

```
// Create Compound control
iContainerControl = CMyContainerControl::NewL(ClientRect());

// Create control to the compound container
CMyControl* control1 = CMyControl::NewLC(ClientRect(),iContainerControl);
iContainerControl->AddControlL(control1,1);
CleanupStack::Pop(); //control 1

// Add the control to the control stack
AppUi()->AddToStackL(iContainerControl);
```

CMyContainerControl - Source

`OfferKeyEventL()` catches key events `EKeyUpArrow` and `EKeyDownArrow` for changing focus of the selected component. `MoveFocusUp()` and `MoveFocusDown()` changes the active component focus to another one with `CCoeContainer::SetFocus()`.

```
TKeyResponse CMyContainerControl::OfferKeyEventL
(const TKeyEvent& aKeyEvent,TEventCode /*aType*/)
    {
    // Move focus
    switch ( aKeyEvent.iCode )
        {
        case EKeyUpArrow:
            {
            MoveFocusUp();
            DrawNow(); // Draw components again
            return EKeyWasConsumed;
            }
        case EKeyDownArrow:
            {
            MoveFocusDown();
            DrawNow(); // Draw components again
            return EKeyWasConsumed;
            }
        default:
            {
            return EKeyWasNotConsumed;
            }
        }
    }

void CMyContainerControl::MoveFocusUp()
    {
    CCoeControlArray::TCursor cursor = Components().Begin();
    CCoeControl* ctrl = NULL;
    CCoeControl* prevCtrl = NULL;
    while ((ctrl = cursor.Control<CCoeControl>()) != NULL)
        {
        if (ctrl->IsFocused())
            {
            if (prevCtrl)
                {
                // Set focus to previous control
                ctrl->SetFocus(EFalse);
                prevCtrl->SetFocus(ETrue);
                break;
                }
            else
                {
                break; // First control is already focused
                }
            }
        prevCtrl = ctrl;
        cursor.Next();
        }
```


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```
    }

void CMyContainerControl::MoveFocusDown()
    {
    CCoeControlArray::TCursor cursor = Components().Begin();
    CCoeControl* ctrl = NULL;
    CCoeControl* nextCtrl = NULL;
    while ((ctrl = cursor.Control<CCoeControl>()) != NULL)
        {
        if (ctrl->IsFocused())
            {
            cursor.Next();
            nextCtrl = cursor.Control<CCoeControl>();
            if (nextCtrl)
                {
                // Set focus to next control
                ctrl->SetFocus(EFalse);
                nextCtrl->SetFocus(ETrue);
                break;
                }
            else
                {
                break; // Last control is already focused
                }
            }
        cursor.Next();
        }
    }
```

Drawing focus

Focus rectangle is drawn in the custom control `CMyControl::Draw()` method which calls `CMyControl::DrawFocusFrame()` that checks component focus. If the component has focus, it is drawn with `CWindowGc::DrawRoundRect()`.

Postconditions

`CMyContainerControl` receives key events and shows active component focus.

See also

Custom Control Series:

- How to create a custom control in Symbian C++ How to define custom control
- Constructing a Symbian custom control from a resource Creating a control from a resource
- Constructing a Symbian container control Creating a container control
- Archived:Using scrollbars in Symbian container control Adding scroll bar to custom control
- Using a Symbian custom control in a dialog Adding a custom control into CAknDialog
- File:CustomControl.zip Example code patch

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