
Subject: Modified SliderCtrl

Posted by [cdoty](#) on Fri, 02 May 2008 19:35:39 GMT

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Here's my modified slider control:

The slider implements:

- 1) Min and Max values shown at the top/right of the slider.
- 2) Tick marks below the slider, with a settable tick count and tick size.
- 3) Value is displayed in a filled rect, whenever the left mouse button is held down on the slider.

Caveats:

- 1) The vertical code has not been tested.
- 2) To get it compiled with the current version of the upp source code, the `IsVert()` and `SliderToClient()` functions, in `SliderCtrl`, need to be made public.
- 3) The font is assumed to be `StdFont`, I could not find a function to get the current font from a control.
- 4) The Min and Max values are drawn in the control, because I couldn't put the numbers as static text, and ensure they could be overdrawn with the slider value.

Here's the header:

```
#pragma once

#include <CtrlLib/CtrlLib.h>

using namespace Upp;

#define TICKSTEP 1
#define VALUESPACING 2
#define VALUEOFFSET 4
#define TICKSIZE 8
#define SMALLTICKSIZE 5

struct LabelledSliderCtrl : public SliderCtrl
{
    protected:
    bool DrawValue; // Draw value?
    int TickStep; // Tick step
```

```
int TickSize; // Size of end tick marks
int SmallTickSize; // Size of middle tick marks
int ValueOffset; // Spacing between border and value
int ValueSpacing; // Distance from control to value rect
```

```
public:
// Constructor
LabelledSliderCtrl();

// Paint
virtual void Paint(Draw &w);

// Left down
virtual void LeftDown(Point pos, dword keyflags);

// Left up
virtual void LeftUp(Point pos, dword keyflags);

// Set tick step
void SetTickStep(int NewStep);

// Set tick size
void SetTickSize(int NewSize);

// Set small tick step
void SetSmallTickSize(int NewSize);

// Set value offset
void SetValueOffset(int NewOffset);

// Set value spacing
void SetValueSpacing(int NewSpacing);
};
```

Here's the source file:

```
#include "LabelledSliderCtrl.h"

LabelledSliderCtrl::LabelledSliderCtrl() :
    DrawValue(false),
    TickStep(TICKSTEP),
    ValueSpacing(VALUESPACING),
    ValueOffset(VALUEOFFSET),
    TickSize(TICKSIZE),
    SmallTickSize(SMALLTICKSIZE)
{
}
```

```

void LabelledSliderCtrl::Paint(Draw &w)
{
    FontInfo Info = StdFont().Info();
    int ElementHeight = Info.GetHeight();
    Value ElementData = GetData();
    String DataString = ElementData.ToString();
    Size ElementSize = GetSize();

    SliderCtrl::Paint(w);

    // Draw min. and max. values at the top/right of the slider
    if (true == IsVert())
    {
        int x = (ElementSize.cx - CtrlImg::vthumb().GetSize().cx) / 2 - ValueOffset;

        // Draw the minimum number
        w.DrawText(x, 1, AsString(GetMin()));

        // Draw the maximum number
        w.DrawText(x, ElementSize.cy - ElementHeight - ValueOffset, AsString(GetMax()));
    }

    else
    {
        DWORD ElementWidth = 0;
        String MaxValue = AsString(GetMax());

        // Draw the minimum number
        w.DrawText(1, ((ElementSize.cy - CtrlImg::hthumb().GetSize().cy) >> 1) - ValueOffset -
            ElementHeight, AsString(GetMin()));

        // Calculate the width of the maximum number, and offset from the right of the control
        for (int Loop = 0; Loop < MaxValue.GetCount(); Loop++)
        {
            ElementWidth += Info[MaxValue[Loop]];
        }

        // Draw the maximum number
        w.DrawText(ElementSize.cx - ElementWidth - 2,
            (ElementSize.cy - CtrlImg::hthumb().GetSize().cy) / 2 - ValueOffset - ElementHeight,
            MaxValue);
    }

    // Draw the tick marks below/left the slider
    if (true == IsVert())
    {
        // Calculate the start of the tick marks
    }
}

```

```

int x = CtrlImg::vthumb().GetSize().cx / 2 - 1;
int y = CtrlImg::vthumb().GetSize().cy / 2 - 1;

// Draw the first and last tick marks. They are drawn longer than the middle ones
w.DrawLine(x, y, x, y + TickSize);

y = ElementSize.cy - CtrlImg::vthumb().GetSize().cy / 2 - 1;

w.DrawLine(x, y, x + TickSize, y);

// Draw the middle tick marks. Needs to be adjusted with a step value.
for (int Loop = int(GetMin()) + 1; Loop < int(GetMax()); Loop += TickStep)
{
    y = SliderToClient(Loop) + CtrlImg::vthumb().GetSize().cy / 2;

    w.DrawLine(x + (TickSize - SmallTickSize), y, x + TickSize, y);
}

else
{
    // Calculate the start of the tick marks
    int x = CtrlImg::hthumb().GetSize().cx / 2 - 1;
    int y = ElementSize.cy - CtrlImg::hthumb().GetSize().cy - 1;

    // Draw the first and last tick marks. They are drawn longer than the middle ones
    w.DrawLine(x, y, x, y + TickSize);

    x = ElementSize.cx - CtrlImg::hthumb().GetSize().cx / 2 - 1;

    w.DrawLine(x, y, x, y + TickSize);

    // Draw the middle tick marks. Needs to be adjusted with a step value.
    for (int Loop = int(GetMin()) + 1; Loop < int(GetMax()); Loop += TickStep)
    {
        x = SliderToClient(Loop) + CtrlImg::hthumb().GetSize().cx / 2;

        w.DrawLine(x, y + (TickSize - SmallTickSize), x, y + TickSize);
    }
}

// Draw the actual value above the slider, enclosed in a rect with a black border.
// The value is only drawn when the mouse button is being held down.
if (true == DrawValue && false == IsNull(GetData()))
{
    int ElementWidth = 0;
    Rect BoxRect;
    Rect TextRect;

```

```

// Calculate the width of the data
for (int Loop = 0; Loop < DataString.GetCount(); Loop++)
{
    ElementWidth += Info[DataString[Loop]];
}

if (true == IsVert())
{
    TextRect.left = ((ElementSize.cx - CtrlImg::vthumb().GetSize().cx) / 2) + ElementWidth -
        ValueOffset;

    TextRect.top = SliderToClient(ElementData);
    TextRect.right = TextRect.left + ElementWidth;
    TextRect.bottom = TextRect.top + ElementHeight;
}

else
{
    TextRect.left = SliderToClient(ElementData);
    TextRect.top = ((ElementSize.cy - CtrlImg::hthumb().GetSize().cy) / 2) -
        ValueOffset - ElementHeight;

    TextRect.right = TextRect.left + ElementWidth;
    TextRect.bottom = TextRect.top + ElementHeight;
}

BoxRect = TextRect;

if (ElementData == GetMin())
{
    if (true == IsVert())
    {
        BoxRect.left = TextRect.left - ValueSpacing;
        BoxRect.right = TextRect.right + ValueSpacing;
    }

    else
    {
        BoxRect.right = TextRect.right + ValueSpacing * 2;

        TextRect.left++;
    }
}

else if (ElementData == GetMax())
{
    if (true == IsVert())

```

```

{
    BoxRect.left = TextRect.left - ValueSpacing;
    BoxRect.right = TextRect.right + ValueSpacing;
}

else
{
    BoxRect.left = TextRect.left - ValueSpacing * 2;
    BoxRect.right--;

    TextRect.left -= ValueSpacing;
}
}

else
{
    BoxRect.left = TextRect.left - ValueSpacing;
    BoxRect.right = TextRect.right + ValueSpacing;
}

// Draw area inside value rect
w.DrawRect(BoxRect, WhiteGray());

// Draw border around value rect
w.DrawLine(BoxRect.left, BoxRect.top, BoxRect.right, BoxRect.top, Black());
w.DrawLine(BoxRect.left, BoxRect.top, BoxRect.left, BoxRect.bottom, Black());
w.DrawLine(BoxRect.right, BoxRect.top, BoxRect.right, BoxRect.bottom, Black());
w.DrawLine(BoxRect.left, BoxRect.bottom, BoxRect.right + 1, BoxRect.bottom, Black());

// Draw value
w.DrawText(TextRect.left, BoxRect.top, DataString);
}
}

void LabelledSliderCtrl::LeftDown(Point pos, dword keyflags)
{
    SliderCtrl::LeftDown(pos, keyflags);

    // Set a flag to indicate that the value should be drawn
    DrawValue = true;
}

void LabelledSliderCtrl::LeftUp(Point pos, dword keyflags)
{
    SliderCtrl::LeftUp(pos, keyflags);

    // Set a flag to indicate that the value should not be drawn
    DrawValue = false;
}

```

```
}

void LabelledSliderCtrl::SetTickStep(int NewStep)
{
    TickStep = NewStep;
}

void LabelledSliderCtrl::SetTickSize(int NewSize)
{
    TickSize = NewSize;
}

void LabelledSliderCtrl::SetSmallTickSize(int NewSize)
{
    SmallTickSize = NewSize;
}

void LabelledSliderCtrl::SetValueOffset(int NewOffset)
{
    ValueOffset = NewOffset;
}

void LabelledSliderCtrl::SetValueSpacing(int NewSpacing)
{
    ValueSpacing = NewSpacing;
}
```

Subject: Re: Modified SliderCtrl
Posted by [Mindtraveller](#) on Sat, 03 May 2008 06:42:58 GMT
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Yes, sometimes this is handy. Maybe it should be included into the SliderCtrl itself (question to authors).

Subject: Re: Modified SliderCtrl
Posted by [mirek](#) on Thu, 15 May 2008 12:43:39 GMT
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Nice & Yes, I think this is would be useful.

In any case, I suggest moving it to bazaar (where I am going to move this message too..)

Mirek
